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Gen-Probe Incorporated; San Diego, CA
Location/Qualifiers
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Gen-Probe Incorporated; San Diego,
Location/Qualifiers
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Gen-Probe Incorporated; San Diego, CA
Location/Qualifiers
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Carter, N.M.
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Nucleic acid probes complementary to human
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Choppin, J., Villada, I.B., Guillet, J.-G., Conn Polyepitopic proteinic fragments of the E6 an production and use thereof in vaccines Patent: US 6783763-A 7 31-AUG-2004;
Peptide Immune Ligands and Institut National Recherche Medicale (INSERM); Labege, Cedex;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28;
                                                         Patent: WO 0075336-A 7 14-DEC-2000;
Biovector Therapeutics S.A. (PR);
de la Recherche Medicale (INSERM) (
                                                                                                                                                                           synthetic construct synthetic construct
                                                                                                                                                                                                                       87 bp
Sequence 7 from Patent WO0075336.
AX057044
                                                                                                      Proteinfragmente die verschiedene epitope der hpv proteine e6 und e7 umfassen, ihre herstellung und verwendungen insbesondere zur
                                                                                                                              Ferries, E.
                                                                                                                                      Choppin, J., bourgault Villada, I., Guillet, J.G.,
                                                                                                                                                               other sequences; artificial sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unknown
                                                                                                                                                                                                             AX057044.1 GI:12309885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unknown
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unclassified.
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llarity 100.0%;
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1. .87
  /organism="synthetic construct"
/mol_type="unassigned DNA"
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                                                                                                                                                                                                                                                                                                                                                                                                             /organism="unknown"
/mol_type="genomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="unknown"
/mol_type="genomic
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                                            ocation/Qualifiers
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Best Local S
Matches 28
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          U14512.1
                                              Similarity
GACATTATTGTTATAGTTTGTATGGAAC
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Direct Submission
Submitted (07-SEP-1994) Dante F. Galutira, Memorial University
Newfoundland, Discipline of Pathology, Fac. Medicine, St. John',
Newfoundland, AlB 3V6, Canada
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Human papillomavirus clone HPV1603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence variation Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Viruses; dsDNA viruses, no RNP unclassified Papillomaviridae.
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larity 100.0%;
Conservative (
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                                                                                                   /note="T to G transversion from PA16, GenBank
Number K02718, position 310; NCBI gi: 333031"
                                                                                                                                                                   /codon_start=2
/product="E6 protein"
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/db_xreff="G1:984946"
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                                                                                                                                                                                                                                                                                          /gene="E6"
<1. .>271
                                                                                                                                                                                                                                                                                                                                                                                            /organism="Human papillomavirus"
/mol_type="genomic DNA"
/strain="HPV16"
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1. .>87
                                                                                   replace="t"
                                                                                                                                     'gene="E6"
                                                                                                                                                                                                                                                                                                                            tissue_type="cervical tissue from invasive carcinoma"
|. .271
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/db_xref="GI:12309886"
                                                                                                                                                                                                                                                                        gene="E6"
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                                                                                                                                                                                                                                                                                                                                                                                db_xref="taxon:10566"
                                                                                                                                                                                                                                                                                                                                                                one="HPV1603"
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Score 28; DB 10;
Pred. No. 0.035;
; Mismatches 0;
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Pred. No. 0.045;
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Jene, partial
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108

GACATTATTGTTATAGTTTGTATGGAAC 135

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                                                                                                                                                                                                                                                                      28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (07-SEP-1994) Dante F. Galutira, Memorial University Newfoundland, Discipline of Pathology, Fac. Medicine, St. John Newfoundland, AlB 3V6, Canada
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Haegert, D.G., Galutira, D.F. and Younghusband, B.H.
Sequence variation in the E6 gene of human papillomavirus type 16
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                                     Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no R
                                                                                                       AP404692 370 bp DNA linear Human papillomavirus type 16 isolate HPV16E6CC1 E6 E7 protein (E7) genes, partial cds.

AP404692 AP404692
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                                                                                             AF404692.1
                         Alphapapillomavirus.
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(bases 1 to 370)
ts,K.J., Thompson,C.H.,
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llarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                    /codon_start=2
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/protein_id="AB860567.2"
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                                                                                                                                                                                                                                                                                                                                    /note="C to G transversion from PA16, GenBank
Number K02718, position 256; NCBI gi: 333031"
/replace="C"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Human papillomavirus"
/mol_type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mol_type="genomic
|strain="HPV16"
                                                                                                                                                                                                                                                                                                                                                                            'gene="B6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'tissue_type="cervical tissue from invasive
                                                                                             GI:15529569
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Pred. No. 0.035;
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HPV1607
  Cossart, Y.E.
                                        RNA stage;
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E6 protein (E6)
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                                        Papillomaviridae;
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  Rose, B.R.
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gene, partial
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                                                                                                                                                                                                                                                                                                                S51110
                                                                                                                                                                                                          Viruses;
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2 (bases 1 to 370)
2 (bases 1 to 370)
3 (bases 1 to 370)
4 (bases 1 to 370)
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8 (bases 2006)
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Camperdown, Sydney, New South Wales 2006,
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence variation and physical state of human papillomavirus type 16 cervical cancer isolates from Australia and New Caledonia Int. J. Cancer 97 (6), 868-874 (2002)
                                                                                                        GenBank staff at the National Library of Medicine created this entry [NCBI gibbsq 120826] from the original journal article. PCR primer sequences: 1-21 and 400-421.
                                                                                                                                                                                                                                         1 (bases 1 to 421)
Tyan,Y.S., Liu,S.T., Ong,W.R., Chen,M.L.,
Detection of Epstein-Barr virus and human
                                                                                                                                                                                                                                                                                                                                                 Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                          orf E6 [human papillomavirus Genomic, 421 nt].
                                                                                                                                                                                              J. Clin. Microbiol. 31 (1), 53-56 (1993)
                                                                                                                                                                                                                         and neck tumors
                                                                                                                                                                                                                                                                                                           unclassified Papillomaviridae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
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ilarity 100.0%;
Conservative 0
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/db_xref="GI:15529570"
/translation="MHGDTPTLHEYMLDLQPE"
                                                                                                                                                                                                                                                                                                                               dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /Codon_start=2
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/db xref="G1:15529571"
/translation="DLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSLYGTTLEQQF
/translation="DLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSLYGTTLEQQF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="taxon:333760"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Human papillomavirus type 16"
/mol type="genomic DNA"
/isolate="HPV16E6CC1"
/organism="Human papillomavirus"
/mol_type="genomic DNA"
/db_xref="taxon:10566"
                                                                                                                                                                                                                                                                                                                                                                                                                        GI:262061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'gene="E7"
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                                                                                        Location/Qualifiers
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Pred. No. 0.033;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421 bp
irus HPV,
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type 16,
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                                                                                                                                                                                                                                           Shu, C.H. and Chang, Y.S. papillomavirus in head
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 370;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          head and neck tumor
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JOURNAL
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                                                                                                             28;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 (bases 1 to 451)
Watts, K.J., Thompson, C.H., Cossart, Y.E. and Rose, B.R.
Sequence variation and physical state of human papillomavirus type
16 cervical cancer isolates from Australia and New Caledonia
Int. J. Cancer 97 (6), 868-874 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (31-JUL-2001) Department of Infectious Diseases,
University of Sydney, Blackburn Building, DO6, Off Western
Camperdown, Sydney, New South Wales 2006, Australia
Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human papillomavirus type 16
Human papillomavirus type 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Watts, K.J., Thompson, C.H., Cossart, Y.B. and Rose, B.R. Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
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                                                                                                                                   Similarity
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                                   GACATTATTGTTATAGTTTGTATGGAAC 28
  GACATTATTGTTATAGTTTGTATGGAAC 196
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                                                                                                        100.0%;
Conservative Conservati
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llarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /translation="TIHDIILECVYCKQQLLRREVYGFAFRDLCIVYRDGNPYAVCDK
CLKFYSKISEYRHYCYSLYGTTLEQQYNKPLCDLLIRCINCQKPLCPEEKQRHLDKKQ
RFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="E6"
<1. .395
                                                                                                                                                                                                                                 /Godon_start=1
/product="87 protein"
/protein id="AAL01348.1"
/db xref="GI:15529580"
/translation="MHGDTPTLHEYMLDLQPE"
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/protein_id="AAL01347.1"
/db_xref="GI:15529579"
                                                                                                                                                                                                                                                                                                                                                                                                  /gene="E7"
398. .>451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Human papillomavirus type 16"
/mol_type="genomic DNA"
/isolate="HPV16B6CC4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene="E6"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      codon_start=3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  db_xref="taxon:333760"
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                                                                                                                                Score 28; DB 10
Pred. No. 0.032;
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Pred. No. 0.032;
; Mismatches 0;
                                                                                                           Mismatches
                                                                                                                                                         DB 10;
                                                                                                           0;
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                                                                                                                                                         Length 451;
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                              KEYWORDS
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HPU34111
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AF404703
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                                                                                                                                                                                                                                                                                                                      169
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Human papillomavirus
Human papillomavirus
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Local Similarity
                    456 bp DNA linear VRL 08-MAR-1996
Human papillomavirus type 16, isolate NM T455, early transforming
protein E6 (E6) gene, complete cds.
U34111
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Watts,K.J., Thompson,C.H., Cossart,Y.E. and Rose,B.R. Direct Submission
Submitted (31-JUL-2001) Department of Infectious Diseases, University of Sydney, Blackburn Building, D06, Off Western Camperdown, Sydney, New South Wales 2006, Australia Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human papillomavirus type 16
Human papillomavirus type 16
Viruses, dsDNA viruses, no Ri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AF404703

451 bp DNA linear VRL 09-OCT-2003

Human papillomavirus type 16 isolate HPV16E6CC12 E6 protein (E6)

and E7 protein (E7) genes, partial cds.
U34111.1 GI:1098727
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/product="16 protein"
/protein id="AAL01363.1"
/protein id="AAL01363.1"
/db_xref="GI:15529603"
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CLKFYSKISEYRHYCYSLYGTTLEQQYNKFLCDLLIRCINCQKFLCFEEKQRHLDKKQ
                                                                                                                                                                                                                                                                                                                                                                                                                          /gene="E7"
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/product="E7 protein"
/protein_id="AAL01364.1"
/db_xref="GI:15529604"
/translation="MHGDTPTLHEYMLDLQPE"
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/mol_type="genomic DNA"
/isolate="HPV16B6CC12"
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Pred. No. 0.032;
Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3. Virol. 69 (12),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human papiliomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of tl E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
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Yamada,T., Wheeler,C.M., Halpern,A.L.,
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                                                                                                                                                                                                                                                                                                                                                                                     456 bp DNA linear VRL 08-MAR-19:
Human papillomavirus type 16, isolate OR 2087, early transforming
protein E6 (E6) gene, complete cds.
U34115
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Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los Alamos, NM 87501, USA Location/Qualifiers
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Direct Submission
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                                                                                                                                              Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of th E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                      unclassified Papillomaviridae.
1 (bases 1 to 456)
Yamada,T., Wheeler,C.M., Halpern,A.L., Stewart,A.C., Hildesheim,A.
                                                                                                                                                                                                                        and Jenison, S.A.
                                                                                                                                                                                                                                                                                               Viruses;
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                                                                                       Farmer, A.D.
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FAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSLYGTTLBQQYNKPLCDLLIR
CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
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/protein_id="AAA91658.1"
/db_xref="GI:1098728"
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Mexico, New Mexico, United States.
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isolate="NM T455"
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HPU34120
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Human papillomavirus type 16, is
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U34120
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Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments
J. Vicol. 69 (12), 7743-7753 (1995)
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Human papillomavirus
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
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Yamada, T., Wheeler, C.M., Halpern, A.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              unclassified Papillomaviridae.
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FAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSLYGTTLEQQYNKPLCDLLIR
CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTKRETQL"
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m collected} by cervical lavage at Kaiser Permanente, portland, Oregon, United States."
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/isoTate="OR 2087"
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/translation="MFQDPQERPRKLPQLCTELQTTHEIILECVYCKQQLLRREVYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /protein_id="AAA91662.1"
/db_xref="GI:1098736"
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/product="early transforming protein
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                                                                                                                                                                               Portland, Oregon,
                                                                                                                                                                                                                                 /organism="Human papillomavirus"
/mol type="genomic DNA"
/isolate="OR 4716"
                                                                                                        gene="E6"
                                                                                                                                           'gene="E6"
                                                                                                                                                                               note="collected by cervical lavage at Kaiser Permanente, ortland, Oregon, United States."
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ase, T-10, Mail
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Stop K710, Los
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                   DEFINITION
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Best Local S
Matches 28
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Best Local (
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and Jenison, S.A.
Human papillomavirus type 16 variant lineages in United States
Human papillomavirus type 16 variant lineages in United States
populations characterized by nucleotide sequence analysis of the
E6, L2, and L1 coding segments
E6, L2, and L1 coding segments
T virol. 69 (12), 7743-7753 (1995)
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HPU34123
456 bp
Human papillomavirus type 16, isola
protein E6 (E6) gene, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Laboratory, HIV Sequence Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human papillomavirus type 16, isola protein B6 (E6) gene, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Viruses;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Farmer, A.D.
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unclassified Papillomaviridae.
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                                                                                                                                      GACATTATTGTTATAGTTTGTATGGAAC 28
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                                                                                                                 GACATTATTGTTATAGTTTGTATGGAAC 257
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                                                                                                                                                                            Conservative
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                                                                                                                                                                                                                                                                   /Godon_start=1
/product="early transforming protein E6"
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/db_xref="01:1098748"
/translation="MFQDPQERPRKLPQLCTELQTTIHDIILECVYCKQQLLRREVYDFAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSLYGTTLEQQYNKPLCDLLIR
                                                                                                                                                                                                                                                       CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="collected by cervical lavage at Kaiser Permanente, Portland, Oregon, United States."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /mol
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                                                                                                                                                                                                                                                                                                                                                                     gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                    'gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mol_type="genomic DNA"
isolate="OR 4724"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  organism="Human papillomavirus'
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0; Mismatches
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6, isolate
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late OR 5110,
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                  VRL 08-MAR-1996
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SOURCE
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                                                                                                                      Human papillomavirus
Human papillomavirus
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
1 (bases 1 to 456)
Yamada,T., Wheeler,C.M., Halpern,A.L., Stewart,A.C., Hi
                                                                                                                                                                                                                                                          Human papillomavirus type 16, isolate protein E6 (E6) gene, complete cds. U34124
                                              and Jenison, S.A.
Human papillomavirus type 16 variant lineages in populations characterized by nucleotide sequence E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Direct Submission
Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
Alamos, NM 87501, USA
    Farmer, A.D.
                                                                                                                                                                                                                                          U34124.1 GI:1098753
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J. Virol. 69 (12), 7743-7753 (1995)
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Yamada,T., Wheeler,C.M., Halpern,A.L.,
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                  (bases 1 to 456)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /gene="E6"
/gene="E6"
/codon_start=1
/product="early transforming protein E6"
/protein_id="AAA91670.1"
/protein_id="AAA91670.1"
/db_xref="G1:1098752"
/db_xref="G1:1098752"
/translation="MPGDPORRPRKLPQLCTELQTTIHDIILECVYCKQQLLRRBVYD FAFRDLCIVYRDGNPYAVCDKCLKFYSKISBYRHYCYSLYGTTLEQQYNKPLCDLLIR CINCQKPLCDEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /db xref="taxon:10566"
/db xref="taxon:10566"
/note="collected by cervical lavage
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|mol_type="genomic DNA"
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100.0%; Pr
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Pred. No. 0.0
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Human papillomavirus type 16, isolate OR 6170, early transforming
protein E6 (E6) gene, complete cds.
U34126
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Submitted (16-AUG-1995) Andrew
                                                                                                                                                                                                                              Submitted (16-AUG-1995) Andrew D. Farmer, Los
Laboratory, HIV Sequence Database, T-10, Mail
Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                 Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of th E6, L2, and L1 coding segments
U. Vicol. 69 (12), 7743-7753 (1995)
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Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
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Yamada, T., Wheeler, C.M., Halpern, A.L.,
                                                                                                                                                                                                                                                                                    Direct Submission
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                                                                                                                                                                                                                                                                                                     Farmer,A.D
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                                                                                                                                                                                                                                                                                                                     (bases 1 to 456)
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llarity 100.0%;
Conservative 0
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FAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSLYGTTLEQQYNKPLCDLLIR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /codon_start=1
/product="early transforming protein
/protein_id="AAA91671.1"
/protein_id="AAA91671.1"
/db_xref="GI:1098754"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="collected by cervical lavage at Kaiser Permanente, Portland, Oregon, United States."
                                                                                         Portland, Oregon,
                                                                                                                                          /organism="Human papillomavirus"
/mol_type="genomic DNA"
/isolate="OR 6170"
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/gene="E6"
/codon_start=1
                                                      /gene="E6"
                                                                                       /note="collected by cervical lavage
Portland, Oregon, United States."
                                                                                                                                                                                                               Location/Qualifiers
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isolate="OR 5428"
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Pred. No. 0.032;
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ase, T-10, Mail
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Stop K710, Los
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230
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and Jenison, S.A.

Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments

J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Viruses, dsDNA viruses, no RNA stage; Papillomaviridae; unclassified Papillomaviridae.

1 (bases 1 to 456)
Yamada, T., Wheeler, C.M., Halpern, A.L., Stewart, A.C., Hi
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                                   بر
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
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Human papillomavirus
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Direct Submission
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GACATTATTGTTATAGTTTGTATGGAAC 257
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Portland, Oregon, United States."
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/isoTate="OR_7574"
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Pred. No. 0.032;
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AF003016
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                                        source
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                                                                                          1 (bases 1 to 477)
Choppin,J., Villada,I.B., Guillet,J.-G., Conresponded in the E6 ar Polyepitopic proteinic fragments of the E6 ar production and use thereof in vaccines Patent: US 6783763-A 1 31-AUG-2004;
Peptide Immune Ligands and Institut National
                                                                                                                                                                                                                                                AR577459
Sequence 1 from patent US
AR577459
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Cappella Cangiani, Naples I-80131, Italy
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tornesello,M.L., Buonaguro,F.M., Meglio,A., Buonaguro,L., Beth-Giraldo,E. and Giraldo,G. Sequence variations and viral genomic state of human papillomavirus type 16 in penile carcinomas from Ugandan patients J.Gen. Virol. 78 (Pt 9), 2199-2208 (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
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1 (sites)
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                                                                                Recherche Medicale (INSERM); Labege, Cedex;
                                                                                                                                                                               Unclassified.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /codon_start=1
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AX766063
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Sequence 7 1
AX766063
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Sequence 1 f
AX057038
AX057038.1
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                                                                              Milner, A.J.
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Silending of gene expression
Silending of gene expression
Patent: WO 03008573-A 7 30-UAN-2003;
Milner, Anne Josephine (GB)
Location/Qualifiers
1. 477
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Human papillomavirus type 16
Viruses; dsDNA viruses, no RV
Alphapapillomavirus.
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Human papillomavirus
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
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Biovector Therapeutics S.A. (FR);
de la Recherche Medicale (INSERM) (
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/proteIn_id="CAC22410.1"
/db_xref="GI:12309880"
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LRREVYDPAPRDLCIVYRDGNPYAVCDKCLKPYSKISBYRHYCYSLYGTTLEQQYNKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Human papillomavirus"
/mol_type="unassigned DNA"
/db_xref="taxon:10566"
organism="Human papillomavirus type 16"
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Human papillomavirus type 16 intratypic variant infection for cervical neoplasia in Southern China
J. Infect. Dis. 186 (5), 696-700 (2002)
2 (basses 1 to 477)
2 (basses 1 to 477)
Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Cheung, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Direct Submission
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1 (bases 1 to 477)
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llarity 100.0%;
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/note="isolated from a patient
carcinoma of the cervix"
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p53-binding"
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/db_xref="taxon:333760"
                                                                                                                                            /product="E6 protein"
/protein id="AAL96604.1"
/bx xref="G1:19744648"
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                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Human papillomavirus
/mol_type="genomic DNA"
/strain="As-P"
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J. Infect. Dis. 186 (5), 696-700 (2002)
2 (bases 1 to 477)
2 (chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F. Direct Submission
Submitted (22-FEB-2002) Department of Microbiology, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, N.T.,
                                                Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RN
Alphapapillomavirus.
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Human papillomavirus type 16 strain
protein (E6) gene, complete cds.
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Hong Kong SAR, China
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Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
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Chan, P.K.S., Lam, C.W., Cheung, T.H., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        translation="mhokrtamfodddoerprkldolctelgttiheiilecvyckogu
| krevydfafrdlcivyrdgnpyavcdkclkfyskiseyrhycyslygttleggynkp
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carcinoma of the cervix"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /codon_start=1
/product="E6 protein"
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/db_xref="GI:19744650"
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/mol_type="genomic DNA"
/strain="As-P"
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country="China"
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Pred. No. 0.031;
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                                                                      stage; Papillomaviridae;
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                                                                                                                         Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.

Human papillomavirus type 16 intratypic variant infection for cervical neoplasia in Southern China

J. Infect. Dis (5), 696-700 (2002)

2 (bases 1 to 477)

2 (bases 1 to 477)

Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Cheung, Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.
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                                                                 Submitted (22-FEB-2002) Department University of Hong Kong, Prince of Hong Kong SAR, China
                                                                                                                                                                                                                                                                                       Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                            Human papillomavirus type (B6) gene, complete cds. AF486302
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2 (bases 1 to 477)
                                                                                                                  Direct Submission
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.
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                                                                                                                                                                                                                                                                            Alphapapillomavirus.
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p53-binding"
                                  1. .477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="isolated from a patient with intraepithelial neoplasia grade II"
/organism="Human papillomavirus
/mol_type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SAR,
                                              Location/Qualifiers
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country="China"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               organism="Human papillomavirus type 16"
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Pred. No. 0.
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e 16
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strain As-P isolate PWH-Q81 E6 protein
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                                                                             of Microbiology, Wales Hospital, ?
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Shatin, N.T.,
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AF486303
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KEYWORDS
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Best Local Similarity
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                                                                                              'gene="E6"
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Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F. Human papillomavirus type 16 intratypic variant infection for cervical neoplasia in Southern China J. Infect. Dis. 186 (5), 696-700 (2002)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (22-FEB-2002) Department of Microbiology, University of Hong Kong, Prince of Wales Hospital,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human papillomavirus type 16
Human papillomavirus type 16
Viruses, dsDNA viruses, no RNA stage; Papillomaviridae;
Alphapapillomavirus.
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ilarity 100.0%;
Conservative (
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                                                                                    p53-binding
                                                                                                                                                                                                                                                                                                           neoplasia grade
1. .477
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/product="E6 protein"
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/note="isolated from a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Human papillomavirus
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/strain="As-C131"
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/country="China"
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                                                                                                                             note="oncoprotein; transforming; trans-activating;
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Best Local S
Matches 28
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JOURNAL
                                                                           Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 28; Conservative 0
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251
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Human papillomavirus type 16 intratypic variant infection for cervical neoplasia in Southern China
J. Infect. Dis 16 (5), 696-700 (2002)
J. Infect. Bis (5), 696-700 (2002)
Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.
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Human papillomavirus type 16 strain
protein (E6) gene, complete cds.
AP48630a
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Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (22-FEB-2002) Department University of Hong Kong, Prince of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    University of Hong Kong, Prince Hong Kong SAR, China
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                         GACATTATTGTTATAGTTTTGTATGGAAC 28
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ilarity 100.0%;
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/db_xref="GI:19744656"
/db_xref="GI:19744656"
/translation="MHQKRTAMFQDPQERPTKLPQLCTELQTTIHEIILECVYCKQQL
/translation="MHQKRTAMFQDPQERPTKLPQLCTELQTTIHEIILECVYCKQQL
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LCDLLIRCINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="\hat{i}solated from a patient with invasive squamous cell carcinoma of the cervix"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Human papillomavirus
/mol_type="genomic DNA"
/strain="As-C442"
                                                                                                                                                                                             /product="E6 protein"
/product="E6 protein"
/protein id="AAL96609.1"
/protein id="AAL96609.1"
/db_xref="G1:19744658"
/translation="MHQKRTAMPQDPQERPRKLPQLCTELQTTIHEIILECVYCKQQL/
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/translation="MHQKRTAMPQDPQERPRKKLPQLCTELQTTIHEIILECVYCKQQLKPKPKKLPQLCTHAKPKKLPQLCTHAKPTHEQQLYNKP
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Pred. No. 0.031;
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Pred. No. 0.
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0.031;
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As-C442 isolate PWH-Q73 E6
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AF486305
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AF486306
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                                                                  KEYWORDS
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J. Infect. Dis. 186 (5), 696-700 (2002)
2 (bases 1 to 477)
Chan, P. K. S., Lam, C. W., Cheung, T. H., Li, W. W. H., Lo, K. W. K., Chan, M. Y. M., Cheung, J. L. K., Xu, L. Y. and Cheng, A. F.
Direct Submission
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Human papillomavirus type 16 strain As-C442 isolate
protein (E6) gene, complete cds.
AF486305
              Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RU
                                                                                                 477 bp I
Human papillomavirus type 16 strain
protein (E6) gene, complete cds.
AF486306
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1 (bases 1 to 477)
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                                                                                     AF486306.1
Alphapapillomavirus.
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                                                                                                                                                                                                                                                                                                                                                                                                                   /product="E6 protein"
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LRREVYDFAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSLYGTTLEGGYNKP
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/mol_type="genomic DNA"
/strain="As-C442"
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                                                                                      GI:19744661
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                                                                                                                                                                                                                                                                                                              Score 28; DE
Pred. No. 0.0
0; Mismatches
                   no RNA stage;
                                                                                                                                                                                                                                                                                                                                    0.031;
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                  Papillomaviridae;
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Shatin, N.T.,
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PWH-Q49 E6
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AUTHORS
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AF486307
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Chan, P.K. S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, P.K. W., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.
Chan, M.Y. M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.
Human papillomavirus type 16 intratypic variant infection for cervical neoplasia in Southern China
J. Infect. Dis. 186 (5), 696-700 (2002)
2 (bases 1 to 477)
Chenna T.H., Li, W.W.H., Lo, K.W.K.,
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                                                                                                            Chan, P. K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, P. K.S., Lam, C.W., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F. Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F. Chung, Dept. 16 intratypic variant infection for cervical neoplasia in Southern China J. Infect. Dis. 186 (5), 696-700 (2002)
                                                                                                                                                                                                                                                                                                                                             Ar486307
477 bp
Human papillomavirus type 16 str
protein (E6) gene, complete cds.
               Submitted (22-FEB-2002) Department of Microbiology, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, N.T., Hong Kong SAR, China
                                                                                                                                                                                                                                          Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
Submitted (22-FBB-2002) Department of Microbiology,
Submitted (Parameter of Hong Kong, Prince of Wales Hospital,
                                                                Direct Submission
                                                                            Chan, P.K.S., Lam, C.W., Cheung, T.H., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y.
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                                                                                                                                                                                                                                                                                                                     AF486307.1 GI:19744663
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Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /translation="MHQKRTAMFQDPQERPRKLPQLCTELQTTIHEIILECVYCKQQL
LRRBVYDFAFRDLCIVYRDGNPYAVCDKCLKFYSKISBYRHYCYSLYGTTLBQQYNKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /country="China"
/note="isolated from a patient with cervical
intraepithelial neoplasia grade II"
i. .477
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product="E6 protein"
/protein_id="AAL96611.1"
/db_xref="GI:19744662"
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strain="As-C193"
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Pred. No. 0.
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n As-G137
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                                                                              Cheng, A.F.
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Shatin, N.T.,
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QEH-683 E6
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Best Local Similarity
Matches 28; Conserv
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                                             'gene="E6"
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Submitted (22-FEB-2002) Department of Microbiology, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, N.T., Hong Kong SAR, China
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Human papillomavirus type 16 intratypic variant infection for cervical neoplasia in Southern China
J. Infect. Dis. 186 (5), 696-700 (2002)
2 (bases 1 to 477)
Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human papillomavirus type 16
Human papillomavirus type 16
Viruses, dsDNA viruses, no R
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Human papillomavirus type 16 strain
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llarity 100.0%;
Conservative (
                                                                                                                                                                                                                   /organism="Human papillomavirus
/mol_type="genomic DNA"
/strāin="As-A178"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            p53-binding
/gene="B6"
/note="oncoprotein; transforming; trans-activating;
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/protein_id="AAL96612.1"
/db_xref="GI:19744664"
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|mol_type="genomic DNA"
|strain="As-G137"
                                                                                                         ntraepithelial
                                                                                                                                                                                                                                                                                                          ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /translation="mhqkrtamfqdpqerprkvpqlctelqttiheiilecvyckqql
.krevydpafrdlcivyrdgnpyavcdkclkfyskiseyrhycyslygttleqqynkp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      country="China"
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                                                                                                                                                       db_xref="taxon:333760"
country="China"
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                                                                                                                                     note="isolated
                                                                                                                                                                                              isolate="QEH-186"
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Pred. No. 0.0
0; Mismatches
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L neoplasia
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                                                                                                           patient with cervical ia grade III"
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. 0.031;
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As-A178 isolate
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QEH-186 E6
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KEYWORDS
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                                                                         ORIGIN
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Human papillomavirus type 16 strain
protein (86) gene, complete cds.
AF486309
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Chanses 1 to 477)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human papillomavirus type 16
Human papillomavirus type 16
Viruses, dsDNA viruses, no RU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (22-FBB-2002) Department of Microbiology, University of Hong Kong, Prince of Wales Hospital, S Hong Kong SAR, China
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
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1 (bases 1 to 477)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
larity 100.0%;
Conservative 0
 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /codon_start=1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        p53-binding"
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p53-binding"
                                                                                                                                                                                                                                                                                                                                    carcinoma of the
                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Human papillomavirus
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country="China"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                      'note="isolated from a
                                                                                                                                                                                                                                                                                                                                                                                                      isolate="PWH-Q66"
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                 100.0%; Score 28;
100.0%; Pred. No.
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Pred. No. 0.031;
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                 0.031;
                                    DB 10;
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                                      Length 477;
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   Indels
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PWH-Q66 E6
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VERSION
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AF486310
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AF486311
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Best Local
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J. Infect. Dis. 186 (5), 696-700 (2002)
2 (bases 1 to 477)
Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, P.K.S., Lam, C.W., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.
Direct Submission
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                  AP486311
Human papillomavirus type
(E6) gene, complete cds.
AF486311
AF486311.1 GI:19744671
                                                                                                                                                                                                                                          μ
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AF486310
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Human papillomavirus type
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                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /gene="E6"
1. .477
                                                                                                                                                                                                                                                                                                                                                                     /codon_start=1
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LCDLLIRCINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="oncoprotein; transforming; trans-activating;
p53-binding"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            carcinoma of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Human papillomavirus
/mol_type="genomic DNA"
/strain="E-P"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . . 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="isolated from a patient with invasive squamous carcinoma of the cervix"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref="taxon:333760"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'gene="E6"
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Pred. No. 0.031;
0; Mismatches 0
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strain E-P
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E-P isolate PWH-Q42 E6 protein
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                                                                  Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., I
Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.
Human papillomavirus type 16 intratypic variant
for cervical neoplasia in Southern China
J. Infect. Dis. 186 (5), 696-700 (2002)
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Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F. Direct Submission
Submitted (22-FEB-2002) Department of Microbiology, The Chinese
                                                                                                                                                                                    Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
Alphapapillomavirus.
                                                                                                                                                                                                                                                                      (E6) gene, complete
AF486312
AF486312.1 GI:19744
                                                                                                                                                                                                                                                                                                           (E6) gene, complete cds.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.
Human papillomavirus type 16 intratypic variant infection for cervical neoplasia in Southern China
J. Infect. Dis. 186 (5), 696-700 (2002)
2 (bases 1 to 477)
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                                                                                                                                                                        (bases
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carcinoma of the cervix"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /translation="MHQKRTAMFQDPQERPRKLPQLCTELQTTIHDIILECVYCKQQL
LRREVYDFAFRDLCIVYRDGNPYAVCDKCLKFYSKISBYRHYCYSLYGTTLEQQYNKP
LCDLLIRCINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /codon_start=1
/product="E6 protein"
/protein_id="AAL96616.1"
/db_xref="GI:19744672"
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                                                                                                                                                                      1 to 477
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     organism="Human papillomavirus type 16"
/mol_type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /db_xref="taxon:333760"
/country="China"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      strain="E-P"
                                                                                                                                                                                                                                                                          GI:19744673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 28; DB 10; Length 477; Pred. No. 0.031;
                                                                                                                                                                                                                                                                                                                      477
e 16
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strain
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1 E-P isolate
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                                                                                                                                                   Lo, K.W.K.,
                                                                                                                                                                                                                                                                                                                       ar VRL
9 QEH-525
                                                                                                                       infection
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                                                                                                                                                                                                                                                                                                                       12-AUG-2002
E6 protein
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                                                                                                                       and risk
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SOURCE
ORGANISM
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VERSION
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AF486313
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JOURNAL
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Best Local
                                                                                                                                                                                                                                                                                          AUTHORS
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                     gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDS
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Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.

Human papillomavirus type 16 intratypic variant infection and risk for cervical neoplasia in Southern China

J. Infect. Dis. 186 (5), 696-700 (2002)

Chases 1 to 477)

Chases 1 to 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human papillomavirus type (E6) gene, complete cds. AF486313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                  Submitted (22-FEB-2002) Department of Microbiology, University of Hong Kong, Prince of Wales Hospital,
                                                                                                                                                                                                                                                                                                                                                                      Chan, P.K.S., Lam, C.W., Cheung, T.H., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y.
                                                                                                                                                                                                                                                                            University of Hong Kong,
Hong Kong SAR, China
                                                                                                                                                                                                                                                                                                                                                     Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alphapapillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AF486313.1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
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                     /note="isolated from a patient with cervical
intraepithelial neoplasia grade III"
1. .477
                                                                                                                                                          /organism="Human papillomavirus
/mol type="genomic DNA"
/strain="E-P"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /codon_start=1
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/db_xref="G1:19744674"
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                                                                                       /db_xref="taxon:333760"
/country="China"
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/mol_type="genomic DNA"
/strain="E-P"
/gene="E6"
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                                                                                                                                     isolate="QEH-453"
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osa-binding"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             country="China"
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/db_xref="taxon:333760"
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100.0%; Pred. No. 0.
ative 0; Mismatches
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strain
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                                                                                                                                                                                                                                                                                                                                                                      Li, W.W.H., Lo, K.W.K., and Cheng, A.F.
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E-P isolate QEH-453 B6 protein
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SOURCE
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AF486315
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Query Match
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                                                                                                                                                                                                                                                                 gene
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human papillomavirus type 16 strain protein (E6) gene, complete cds. Ap486315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F. Human papillomavirus type 16 intratypic variant infection and risk for cervical neoplasia in Southern China J. Infect. Dis. 186 (5), 696-700 (2002)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (22-FEB-2002) Department of Microbiology, University of Hong Kong, Prince of Wales Hospital,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alphapapillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Viruses;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human papillomavirus type 16
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Similarity 100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kong
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /codon_start=1
/product="E6 protein"
/protein_id="AAL96618.1"
/db_xref="GI:19744676"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              p53-binding
                                                                                                                                                                           /note="oncoprotein; transforming; trans-activating;
p53-binding"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /trānslation="MHQKRTAMFQDPQERPRKLPQLCTELQTTIHDIILECVYCKQQL
LRREVYDFAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSLYGTTLEQQYNKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="E6"
/note="oncoprotein; transforming; trans-activating;
                                                                                                                                                                                                                                                                                    carcinoma of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SAR,
                                                                                                       /codon_start=1
/product="E6 protein"
/protein_id="AAL96620.1"
/db_xref="GI:19744680"
                                                                                                                                                                                                                                                                       /country="China"
/country="China"
/note="isolated from a patient with invasive squamous cell
/arcinoma of the cervix"
                                                                                                                                                                                                                                                                                                                                                                            /organism="Human papillomavirus type 16"
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/strāin="E-G276T"
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lrrevydpafrdlcivyrdospyavcdkclkfyskiseyrhycyslygttleoqynkp
                                                                                                                                                                                                              /gene="E6"
                                                                                                                                                                                                                                  1. .477
                                                                                                                                                                                                                                                 /gene="E6"
                                                                                                                                                                                                                                                                                                                                                    isolate="QEH-561"
                                                                                                                                                                                                                                                                                                                                                                                                                                           ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                       db_xref="taxon:333760"
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   100.0%;
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Pred. No. 0.031;
   Score
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   28;
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   DB
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n E-G276T
   10;
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Cheng,A.F.
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 Length 477;
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T isolate
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QEH-561 E6
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AUTHORS
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VERSION
KEYWORDS
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AF486316
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                                                                RESULT 42
AF486317
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                                DEFINITION
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     ACCESSION
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                                                                                                                                  251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F. Chunan papillomavirus type 16 intratypic variant infection for cervical neoplasia in Southern China
J. Infect. Dis. 186 (5), 696-700 (2002)

Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, P.K.S., Lam, C.W., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F. Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 GACATTATTGTTATAGTTTGTATGGAAC
477 bp DNA linear
Human papillomavirus type 16 strain B-G241T isolate
protein (B6) gene, complete cds.
AF486317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (22-FBB-2002) Department of Microbiology, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, N.T., Hong Kong SAR, China
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human papillomavirus type 16 strain protein (RK)
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                                                                                                                                                                                                  28;
                                                                                                                                                                                                                   Similarity
                                                                                                                                    GACATTATTGTTATAGTTTGTATGGAAC 278
                                                                                                                                                      GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 477
                                                                                                                                                                                                 100.0%;
ilarity 100.0%;
Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (E6) gene, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cytology"
                                                                                                                                                                                                                                                                                                                                                                                                                                            /gene="E6"
1. .477
                                                                                                                                                                                                                                                                                /codon_start=1
/product="E6 protein"
/product="E6 protein"
/protein_id="AA196621.1"
/db_xref="G1:19744682"
/db_xref="G1:19744682"
/tzanslation="MHQKRTRAMPQDPQERPRKLPQLCTELQTTIHDIILECVYCKQQL/transplctlygryLOGNPAVCDKCLKFYSKISBYRHYCYSLYGTTLEQQYNKPLRENYDPARFDLCTVYCKDQLFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                p53-binding"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Human papillomavirus
/mol type="genomic DNA"
/strain="E-G449T"
                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note="isolated from a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           db_xref="taxon:333760"
country="China"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . .477
                                                                                                                                                                                                                                                                                                                                                                                                             note="oncoprotein; transforming; trans-activating;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          isolate="QEH-1220"
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                                                                                                                                                                                                 Score 28; DB 10 Pred. No. 0.031; Mismatches
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QEH-1220 E6
                                      VRL 12-AUG-2002
QEH-1154 E6
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JOURNAL
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AUTHORS
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JOURNAL
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           Chan, P. K.S., Lam, C. W., Cheung, T. H., Li, W.W.H., Lo, K.W. K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A. F. Human papillomavirus type 16 intratypic variant infection for cervical neoplasia in Southern China J. Infect. Dis. 186 (5), 696-700 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (22-FEB-2002) Department of Microbiology, University of Hong Kong, Prince of Wales Hospital, S Hong Kong SAR, China
                                                                                                                                  Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                  AF486318 477 bp DNA linear VRL 12-AUG-2002
Human papillomavirus type 16 strain B-C442T isolate QEH-196 B6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F. Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F. Human papillomavirus type 16 intratypic variant infection for cervical neoplasia in Southern China J. Infect. Dis. 186 (5), 696-700 (2002)
 Chan, P.K.S.,
                                                                                                                                                                                                      AF486318.1 GI:19744685
                                                                                                                                                                                                                                      protein
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                                                                                                                                                                                                                                                                                                                                                  GACATTATTGTTATAGTTTGTATGGAAC 278
                                                                                                        (bases 1 to 477)
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p53-binding"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /codon_start=1
/product="E6 protein"
/protein_id="AAL96622.1"
/db_xref="GI:19744684"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LCDLLIRCINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /translation="MHQKRTAMFQDPQBRPRKLPQLCTELQTTIHDIILECVYCKQQL
LRREVYDFAFRDLCIVYRDGNPYAVCDKCLKFYSKISBYRHYCYSLYGTTLEQQYNKP
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intraepithelial neoplasia grade II"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     db_xref="taxon:333760"
country="China"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Human papillomavirus type 16"
/mol_type="genomic DNA"
/strain="E-G241T"
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 Lam, C.W.,
                                                                                                                                                                                                                                    gene,
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Cheung, T.H., Li, W.W.H., Lo, K.W.K.,
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Pred. No.
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JOURNAL
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Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.
Human papillomavirus type 16 intratypic variant infection for cervical neoplasia in Southern China
J. Infect. Dis. 186 (5), 696-700 (2002)
2 (bases 1 to 477)
Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.
Direct Submission
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Human papillomavirus type 16
Viruses, dsDNA viruses, no RNA stage; Papillomaviridae;
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Submitted (22-FEB-2002) Department of Microbiology, University of Hong Kong, Prince of Wales Hospital, & Hong Kong, SAR, China
                                                                                                                                                                                                                                      Submitted (22-FEB-2002) Department of Microbiology, University of Hong Kong, Prince of Wales Hospital,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human papillomavirus type 16 strain
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1 (bases 1 to 477)
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                                                                                                                                                                                                               University of Hong Kong,
Hong Kong SAR, China
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
ilarity 100.0%;
Conservative
                                                                                          /organism="Human papillomavirus
/mol_type="genomic DNA"
/strain="E-T360T"
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/mol_type="genomic DNA"
/strain="B-C442T"
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                      /db_xref="taxon:333760"
/country="China"
                                                                                                                                                                                    ocation/Qualifiers
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JRREVYDFAFRDLCIVYRDGNPYAVCDKCLKFYSKISBYRHYCYSLYGTTLEQQYNKF
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'country="China"
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note="isolated from a patient with cervical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 note="oncoprotein; transforming; trans-activating;
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                                                                   isolate="QEH-352"
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Pred. No. (
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Shatin, N.T.,
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Shatin, N.T.,
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QEH-352 E6
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J. Infect. Dis 477)

Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  477 bp DNA linear VRL 12-A. Human papillomavirus type 16 strain E-G187T isolate QEH-400 protein (E6) gene, complete cds.
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Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (22-FBB-2002) Department of Microbiology, University of Hong Kong, Prince of Wales Hospital,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alphapapillomavirus.
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                                                                                                                                                                                                                                                                                                                                                                                                                              Kong SAR, China
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                                                                                                                                                                                                                                        /note="isolated from a patient with invasive carcinoma of the cervix"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LCDLLIRCINCQKRLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
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LRREVYDFAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSLYGTTLEQQYNKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /codon_start=1
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/db_xref="GI:19744688"
                                                                                                                               /note="oncoprotein; transforming;
p53-binding"
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/translation="mHQKRTAMFQDPQERPRKLPQLCTELQTTIHDIILECVYCKQQL
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LCDLLIRCINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                   /organism="Human papillomavirus
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/strain="E-G187T"
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/db_xref="GI:19744690"
                                                                                                              codon_start=1
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                                                                                                                                                                                                     'gene="E6"
                                                                                                                                                                                                                                                                            db_xref="taxon:333760"
country="China"
                                                                                                                                                                                                                                                                                                                                                                                                          ocation/Qualifiers
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Pred. No. 0.031;
; Mismatches
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                                                                                                                                                      trans-activating;
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Shatin, N.T.,
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AF486323
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Best Local S
Matches 28
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Best Local
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J. Infect. Dis. 186 (5), 696-700 (2002)

Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (22-FEB-2002) Department of Microbiology, University of Hong Kong, Prince of Wales Hospital, & Hong Kong SAR, China
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human papillomavirus type 1
Human papillomavirus type 1
Viruses; dsDNA viruses, no
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AF486323
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                                                                                                       GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                  GACATTATTGTTATAGTTTGTATGGAAC 278
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ilarity 100.0%;
Conservative (
                                                                                                                                                                                                                                  /codon_start=1
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                                                                                                                                                                                                                                                                                                                                                         p53-binding'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Human papillomavirus type 16"
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/strain="B-6538T"
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                                                                                                                                                                                                                                                                                                                                                                                       'gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                      'gene="E6"
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arcinoma of the cervix"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           db_xref="taxon:333760"
country="China"
                                                                                                                                                                                                                                                                                                                                                                       note="oncoprotein; transforming; trans-activating;
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Pred. No. 0.0
0; Mismatches
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o RNA stage; Papillomaviridae;
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Watts,K.J., Thompson,C.H., Cossart,Y.E. and Rose,B.R. Sequence variation and physical state of human papillomavirus type 16 cervical cancer isolates from Australia and New Caledonia Int. J. Cancer 97 (6), 868-874 (2002)
                                                                                       Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
Alphapapillomavirus.
                                                                                                                                                                                                  488
Human papillomavirus type 16
and E7 protein (E7) genes, pa
AF404702
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Human papillomavirus type 16 intratypic variant infection for cervical neoplasia in Southern China
J. Infect. Dis. 186 (5), 696-700 (2002)
2 (bases 1 to 477)
2 (bases 1 to 477)
Chan, P.K.S., Lam, C.W., Cheung, T.H., Li, W.W.H., Lo, K.W.K., Chan, M.Y.M., Cheung, J.L.K., Xu, L.Y. and Cheng, A.F.
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Watts, K.J., Thompson
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (22-FEB-2002) Department of Microbiology, University of Hong Kong, Prince of Wales Hospital,
                                                                                                                                                                                    AF404702.1 GI:15529599
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protein (E6) gene, complete cds.
AF486323
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Hong Kong SAR, China
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Viruses; dsDNA viruses, no RNA stage;
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p53-binding"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /trānslation="MHQKRTAMFQDPQERPRKLPQLCTELQTTIHDIILECVYCKQQL
LRREVYDFAFRDLCIVYRDGSPYAVCDKCLKFYSKISEYRHYCYSLYGTTLEQQYNKF
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/strain="E-G796442""
/isolate="QEH-2078"
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country="China"
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AR095319
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 5
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AR095319
AR095319.1
                                                    28;
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Edwards, S. John., Cox, J. Cooper., Webb, E. Ann.
Variants of human papillomavirus antigens
Patent: US 6004557-A 11 21-DEC-1999;
Location/Qualifiers
1. .519
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                                                                                                                                                                                                                       Unknown.
Unclassified.
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University of Sydney, Blackburn Building, D06, Off Western Avenue,
Camperdown, Sydney, New South Wales 2006, Australia
                                                                Similarity
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Direct Submission
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 GACATTATTGTTATAGTTTGTATGGAAC
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tts, K.J., Thompson, C.H.,
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Vyrdgnpyavcdkclkpyskisbyrhycyslygtaleqqynkplcdllircincqkpl
CpeekQrhldkkqrphnirgrwtgrcmsccrssrtretql"
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                                                                                                               /mol_type="unassigned
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/product="E6 protein"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Human papillomavirus type 16"
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7: gb_st:
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AR063359 Sequence
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AR349068 Sequence
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AR577462 Sequence
AR577462 Sequence
AR517462 Human papil
U14513 Human papil
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U14515 Human papil
U14516 Human papil
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AF404695 Human pap
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AF404699 Human pap
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/mol_type="genomic
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Best Local Similarity 100.0%;
Matches 28; Conservative 0;
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Sequence 7:
AR577462
AR577462.1
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                                                                                                                 1 (bases 1 to 87)
Choppin,J., Villada,I.B., Guillet,J.-G., Connan,F.
Polyepitopic proteinic fragments of the E6 and E7 F
production and use thereof in vaccines
Patent: US 6783763-A 7 31-AUG-2004;
Peptide Immune Ligands and Institut National de la
Recherche Medicale (INSERM); Labege, Cedex;
FRX;
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Gen-Probe Incorporated; San Diego, CA
Location/Qualifiers
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Sequence 8 from patent US
AR349068
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/mol_type="genomic
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Local Similarity 100.0%; Pred. No. 0.0022;
hes 28; Conservative 0; Mismatches 0
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Sequence 7
AX057044
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Human papillomavirus
Viruses; dsDNA viruses, no RNA
unclassified Papillomaviridae.
1 (bases 1 to 245)
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  Direct Submission
Submitted (07-SEP-1994) Dante F. Galutira, Memorial University of Newfoundland, Discipline of Pathology, Fac. Medicine, St. John's, Newfoundland, AlB 3V6, Canada Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                  1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                              1 (bases 1 to 245)
1 (bases 1 to 245)
Haegert, D.G., Galutira, D.F. and Younghusband, B.
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de la Recherche Medicale (INSERM) (FR)
Location/Qualifiers
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                                                                   Galutira, D.F.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="synthetic construct"
/mol type="unassigned DNA"
/db_xref="rtaxon:32630"
/note="fragment de la sequence codant
/note="periodique correspondante"
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/protein_id="CA022413.1"
/db_xref="G1:12302886"
/translation="MSEYRHYCYSLYGTTLEQQYNKPLCDLLI"
                                                                                                                                                                                                               GI:984951
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from Patent WO0075336.
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papillomavirus
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                                                                                                                                                                                                                                                  VRL 15-FEB-2001 gene, partial
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                                                                                                                                                                                                                                                                                                 143
                                                             Viruses; dsDNA viruses, no RNA stage; Papillomaviridae; unclassified Papillomaviridae.

1 (bases 1 to 253)

Haegert,D.G., Galutira,D.F. and Younghusband,B.H.
Sequence variation in the B6 gene of human papillomavirus
                                                                                                                                                                                                                                                                                                              1 GAACAGCAATACAACAAACCGTTGTGTG 28
 Submitted
                           Galutira, D.F.
                                                                                                                                   Human papillomavirus
Human papillomavirus
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                                                                                                                                                                                                              Human papillomavirus
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                                     (bases 1 to 253)
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Submission
ted (07-SEP-1994)
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Number K02718, position 364; NCBI gi:
/replace="a"
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Number K02718, position 350; NCBI gi:
replace="t"
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/mol type="genomic DNA"
/strain="HPV16"
/db xref="taxon:10566"
/clone="HPV1629"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="A to G transition from Number K02718, position 289; N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="C to T transition from Number K02718, position 335; }
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTLEQQYNKPLCDLLIRCINCQKPLCPEEKQRHLDKK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="B6"
/codon_start=2
/codon_tes protein"
/protein_id="AAB60569.2"
/db_xref="GI:12831650"
/translation="vyDFAFRDLCIVYRDGNPYAVCDKCLKFYSKISBYRYYCYSVYG
                                                                                                                                                                                                                                                                                                                                                                                                                                                           'gene="E6"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       replace="c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       replace="a"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene="E6"
                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 28; DI
100.0%; Pred. No. 0.0
tive 0; Mismatches
                                                                                                                                                                                                                253 bp
clone HPV1601
Dante
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                                                                                                                                                                                                                                                                                                                                                                0.0024;
Galutira, Memorial University
                                                                                                                                                                                                                                                                                                                                                                            DB 10;
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NCBI gi: 333031"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    m PA16, GenBank Accession
NCBI gi: 333031"
                                                                                                                                                                                                                protein
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                                                                                                                                                                                                                                                                                                                                                                              Length 245;
                                                                                                                                                                                                                 linear
ein (E6)
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333031"
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333031*
                                                                                                                                                                                                                gene,
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Jene, partial
                                                                                                                                                                                                                                                                                                                                                   0,
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of
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                                                                                                                                                                                                                                                        JOURNAL REFERENCE
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AUTHORS
TITLE
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HPU14512
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ORGANISM
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KEYWORDS
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Best Local S
Matches 28
                                                                                                                                                                                                                TITLE
JOURNAL
                                                                                                                                                                                                                                          AUTHORS
                                                                 gene
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133 GAACAGCAATACAACAAACCGTTGTGTG 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        numan papillomavirus
Viruses; dsDNA ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                     Direct Submission Submitted (07-SEP-1994) Dante F. Galutira, Memorial University of Submitted (07-SEP-1994) Pathology, Fac. Medicine, St. John's, Newfoundland, Discipline of Pathology, Fac. Medicine, St. John's, Newfoundland, AlB 3V6, Canada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Newfoundland, Discipline of Pathology, Fac. Medicine, St. John's, Newfoundland, AlB 3V6, Canada
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 271)
Haegert,D.G., Galutira,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus clone HPV1603
                                                                                                                                                                                                                                                                                                                                                                   Galutira, D.F
                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence variation in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human papillomavirus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /codon_start=1
/product="E6 protein"
/protein_id="AB66565.2"
/protein_id="AB66565.2"
/db_xref="61:12831647"
/translation="FAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSVYGTTL
EQQYNKPLCDLLIRCINCQKPLCPEEKQRHLDKKQRFHNI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="T to G transversion from PA16,
Number K02718, position 350; NCBI gi:
/replace="t"
/codon_start=2
/product="E6 protein"
                                                                                                                  tissue_type="cervical tissue from invasive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Human papillomavirus"
/mol_type="genomic DNA"
/strain="HPV16"
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                                                                                                                                                                                                        organism="Human papillomavirus"
|mol_type="genomic DNA"
                                                                                                                                                                                                                                                                    Location/Qualifiers
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                                                                              'gene="E6"
                                                                                                                                                                  /db_xref="taxon:10566"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tissue_type="cervical"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   clone="HPV1601"
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                                        'gene="E6"
                                                                                                                                                                                        strain="HPV16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'gene="E6"
                                                                                                                                               clone="HPV1603"
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Pred. No. 0.0024;
; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                E6 gene of
                                                                                                                                                                                                                                                                                                                                                                                                                                and Younghusband, B.H.
6 gene of human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA linear
E6 protein (E6)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 253;
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333031"
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                                                                                                                              carcinoma"
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KEYWORDS
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                                              Matches
                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28;
                                              28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (07-SEP-1994) Dante F. Galutira, Memorial University Newfoundland, Discipline of Pathology, Fac. Medicine, St. John' Newfoundland, AlB 3V6, Canada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 (bases 1 to 272)
1 (bases 1 to 272)
Haegert, D.G., Galutira, D.F. and Younghusband, B.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Viruses;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Galutira, D.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    U14513.1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unclassified Papillomaviridae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAACAGCAATACAACAAACCGTTGTGTG 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 272)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                   /gene="B6"
/note="C to G transversion from PA16, GenBank Accession
Number K02718, position 256; NCBI gi: 333031"
/replace="C"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                         /codon_start=2
/product="86 protein"
/protein_id="AB60567.2"
/protein_id="AB60567.2"
/db_xref="01:12831648"
/translation="VYDFAFRDLWIVYRDGNFYAVCDKCLKFYSKISBYRHYCYSLYG
TTLEQQYNKFLCDLLIRCINCQKFLCFEEKQRHLDKKQRFHNIRGR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="T to G transversion from PA16, GenBank Accession
Number K02718, position 310; NCBI gi: 333031"
/replace="t"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /protein_id="AAB60566.1"
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TTLEQQYNKPLCDLLIRCINCQKPLCPEEKQRHLDKKQRFHNIRGR"
                                                                                                                                                                                                                                                                                                <1. .>272
                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                               /gene="E6"
                                                                                                                                                                                                                                                                                                            /gene="E6"
                                                                                                                                                                                                                                                                                                                           tissue type="cervical tissue from invasive carcinoma"
1. .272
                                                                                                                                                                                                                                                                                                                                                                                                  organism="Human papillomavirus"
mol_type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                          clone="HPV1607"
                                                                                                                                                                                                                                                                                                                                                                                    strain="HPV16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GI:984947
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Pred. No. 0.0024;
                                                          Score 28; DB 10;
Pred. No. 0.0024;
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ne HPV1607
                                              Mismatches
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                                                                        DB 10;
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                                              Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VRL 15-FEB-2001
gene, partial
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                type 16
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RESULT 13
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TITLE
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                                                                                                                                  Local
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                                                                   143
                                                                                    1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                        28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
Submitted (07-SEP-1994) Dante F. Galutira, l
Newfoundland, Discipline of Pathology, Fac.
Newfoundland, AlB 3V6, Canada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dases 1 to 273)

1 (Dases 1 to 273)

Haegert,D.G., Galutira,D.F. and Younghusband,B.H.

Servence variation in the E6 gene of human papillomavirus type 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               unclassified Papillomaviridae.
1 (bases 1 to 273)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Viruses;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human papillomavirus
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                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Galutira,D.F
                                                                   GAACAGCAATACAACCAAACCGTTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAACAGCAATACAACAAACCGTTGTGTG
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                                                                                                                       100.0%; ilarity 100.0%; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           dsDNA viruses,
                                                                                                                                                                                         /note="C to T transition from
Number K02718, position 335; N
/replace="c"
                                                                                                                                                                                                                                                           /note="A to G transition from Number K02718, position 289; N /replace="a"
                                                                                                                                                                                                                                                                                                                                            /note="T to A transversion f:
Number K02718, position 286;
                                                                                                                                                                                                                                                                                                                                                                                                 /codon_start=2
/product="86 protein"
/protein_id="AAB60568.2"
/db_xrefa"G1:12831649"
/translation="VYDFAFRDLCIVYRDGNPYAVCDKCLKFYSKISBYRYYCYSLYG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Human papillomavirus"
/mol_type="genomic DNA"
/strain="HPV16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GI:984949
                                                                                                                                                                                                                                   'gene="E6"
                                                                                                                                                                                                                                                                                                     gene="E6"
                                                                                                                                                                                                                                                                                                                               replace="t"
                                                                                                                                                                                                                                                                                                                                                                        'gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'gene="B6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tissue_type="cervical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      db_xref="taxon:10566"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        lone="HPV1627"
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                                                                                                                       0,
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                                                                                                                       Score 28; DB 10;
Pred. No. 0.0024;
; Mismatches 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ģ
                                                                   170
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                                                                                                                                                 DB 10;
                                                                                                                                                                                                                                                                                                                                            n from PA16,
86; NCBI gi:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E6 I
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protein (E6)
                                                                                                                                                                                                       m PA16, GenBank Accession
NCBI gi: 333031"
                                                                                                                                                                                                                                                                        m PA16, GenBank Accession
NCBI gi: 333031"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           from
                                                                                                                                               Length
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                                                                                                                          Indels
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333031"
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gene, partial
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DEFINITION

HPU14516 274 bp Human papillomavirus clone HPV1649

DNA linear E6 protein (E6)

gene, partial VRL 14-SEP-1995

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orf E6 [human papillomavirus Genomic, 421 nt].
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U14516
U14516.1
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Submitted (07-SEP-1994) Dante F. Galuti
Newfoundland, Discipline of Pathology,
Newfoundland, AlB 3V6, Canada
Location/Qualifiers
                                                                                                                        1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human papillomavirus
Human papillomavirus
Viruses; dsDNA viruses,
                                                                                                                                                               28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Galutira, D.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unclassified Papillomaviridae.

1 (bases 1 to 274)

Haegert, D.G., Galutira, D.F. and Younghusband, B.H.

Sequence variation in the E6 gene of human papillomavirus type
                                                                                                                                                                           Similarity
                                                                                                          GAACAGCAATACAACAAACCGTTGTGTG 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 274)
                                                                                                                                                            100.0%; Score 28; llarity 100.0%; Pred. No. Conservative 0; Mismatch
                                                                                                                                                                                                                            /gene="B6"
/note="T to G transversion from PA16,
Number K02718, position 350; NCBI gi:
/replace="t"
                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="T to A t
Number K02718,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /gene="E6"
/geodon_start=2
/codon_start=2
/product="86 protein"
/protein_id="AAB60570.1"
/protein_id="AAB60570.1"
/db_xref="d1:984954"
/translation="VYDFAFRDLCIVYRDGNEYAVCDKCLKFYSKISBYRYYCYSVYG_TTLBQQYNKPLCDLLIRCINCQKPLCPEEKQRHLDKKQRFHNIRGRW"
                                                                                                                                                                                                                                                                                                         /note="C to T transition
Number K02718, position 3
                                                                                                                                                                                                                                                                                                                                                                          /note="A to G transition from Number K02718, position 289; N
                                                                                                                                                                                                                                                                                              /replace="c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Human papillomavirus"
/mol_type="genomic DNA"
/strain="HPV16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GI:984953
                                                                                                                                                                                                                                                                                                                                                               /replace="a"
                                                                                                                                                                                                                                                                                                                                                                                                                             replace="t"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tissue_type="cervical tissue"
                                                                                                                                                                                                                                                                                                                                     gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 clone="HPV1649"
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335; NCBI gi: 333031"
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ology, Fac.
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                          DNA
type
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5; NCBI gi:
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NCBI gi:
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                             16,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  from invasive
                                                                                                                                                                                     Length 274;
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Medicine, St. John'
                             linear VRL 08-MAY-1993 head and neck tumor,
                                                                                                                                                               Indels
                                         linear
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1: 333031"
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AF404695
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     451 bp DNA linear
Human papillomavirus type 16 isolate HPV16E6CC4 E6
B7 protein (E7) genes, partial cds.
AF404695
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                                                                                                                                                                                                                                                                                                                        Submitted (31-JUL-2001) Department of Infectious Diseases,
University of Sydney, Blackburn Building, D06, Off Western Avenue,
Camperdown, Sydney, New South Wales 2006, Australia
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Int. J. (
11857370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Watts,K.J., Thompson,C.H., Cossart,Y.E. and Rose,B.R. Sequence variation and physical state of human papillomavirus 16 cervical cancer isolates from Australia and New Caledonia Int. J. Cancer 97 (6), 868-874 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage;
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entry [NCBI gibbeq 120826] from the original journal article.
PCR primer sequences: 1-21 and 400-421.
Location/Qualifiers
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Tyan,Y.S., Liu,S.T., Ong,W.R., Chen,M.L.,
Detection of Epstein-Barr virus and human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 28; DB 10; Similarity 100.0%; Pred. No. 0.0025; 28; Conservative 0; Mismatches ^-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 451)
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                   /gene="E6"
/codon_start=3
/product="E6 protein"
/protein_id="AAL01347.1"
/db_xref="GI:15529579"
                                                                                                                                      /gene="E6"
<1. .395
                                                                                                                                                                                                                              /organism="Human papillomavirus type 16'
/mol type="genomic DNA"
/isolate="HPV16E6CC4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Human papillomavirus"
/mol_type="genomic DNA"
/mbl_type="genomic DNA"
/db xref="teaxon:10566"
/note="type: 16"
                                                                                                                                                                                                          /db_xref="taxon:333760"
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translation="TIHDIILECVYCKQQLLRREVYGFAFRDLCIVYRDGNPYAVCDK"
                                                                                                                                                                                                                                                                                                            . 451
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                                                                                                                                                                                                                                                                                                                                                                                                                                               Thompson, C.H., Cossart, Y.B. and Rose, B.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GI:15529578
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protein (E6) and
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AF404696
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (31-JUL-2001) Department of Infectious Diseases, University of Sydney, Blackburn Building, D06, Off Western Camperdown, Sydney, New South Wales 2006, Australia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Watts, K.J., Thompson, C.H., Cossart, Y.E. and Rose, B.R. Sequence variation and physical state of human papillomavirus type 16 cervical cancer isolates from Australia and New Caledonia Int. J. Cancer 97 (6), 868-874 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Viruses;
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Human papillomavirus type 16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    dsDNA viruses, no RNA stage; Papillomaviridae;
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isolate="HPV16E6CC5"
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                 translation="MHGDTPTLHEYMLDLQPE"
                                                                                                          'gene="E7"
                                                                                                                                                                                                                                                                                          codon_start=3
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Pred. No. 0.0025;
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AF404699
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AF404699
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Watts,K.J., Thompson,C.H., Cossart,Y.E. and Rose,B.R.
Sequence variation and physical state of human papillomavirus type
16 cervical cancer isolates from Australia and New Caledonia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                             Similarity 100 28; Conservative
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Watts,K.J., Thompson,C.H., Cossart,Y.E. and Rose,B.R.
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GAACAGCAATACAACCAAACCGTTGTGTG 231
                              GAACAGCAATACAACAAACCGTTGTGTG
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Pred. No.
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RESULT 18 AF404700

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Watts, K.J., Thompson, C.H., Cossart, Y.E. and Rose, B.R.
Watts, K.J., Thompson, C.H., Cossart of human papillomavirus type
Sequence variation and physical state of human papillomavirus type
16 cervical cancer isolates from Australia and New Caledonia
Int. J. Cancer 97 (6), 868-874 (2002)
                                                                                                                               AF404701 451 bp DNA linear Human papillomavirus type 16 isolate HPV16E6CC10 E and E7 protein (E7) genes, partial cds.
AF404701
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Human papillomavirus type 16
Viruses; dabNA viruses, no RNA stage; Papillomaviridae;
Alphapapillomavirus.
                                                Human papillomavirus type 16
Human papillomavirus type 16
Viruses, dsDNA viruses, no RNA
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Watts, K.J., Thompson
Direct Submission
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451 bp
Human papillomavirus type 16 isolat
E7 protein (E7) genes, partial cds.
Alphapapillomavirus.
1 (bases 1 to 451)
Watts, K.J., Thompson
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University of Sydney, Blackburn Building, D06, Off Western Avenue,
Camperdown, Sydney, New South Wales 2006, Australia
Location/Qualifiers
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AF404700.1 GI:15529593
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                                             dsDNA viruses,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="E6"
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 Thompson, C.H., Cossart, Y.E. and
                                                                                                                   GI:15529596
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                                                  stage;
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0.0025;
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   Rose, B.R.
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                                                                                                                                                               protein
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                                                               JOURNAL
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11857370
                                                                                                                                                                                                                                                                                                                             and E7 protein
AF404703
                                                                                                                                                                                                                                                                                                            AF404703.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Direct Submission
                                                                                  Direct Submission
                                                                                               2 (bases 1 to 451)
Watts, K.J., Thompson, C.H.,
                                                                                                                                                                                                                            Alphapapillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Watts, K.J.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /codon_start=1
/product="E7 protein"
/protein_id="AAL01360.1"
/db_xref="GI:15529598"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RFHNIRGRWTGRCMSCCRSSRTRRETQL"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:333760"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        translation="MHGDTPTLHEYMLDLQPE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'gene="E7"
                                                                                                                                                                                                                                                                                                              GI:15529602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Thompson, C.H.,
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                                                                                                                                                                                                                                                                                                                                          genes,
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
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Alphaparana ASI)

1 (bases 1 to 451)

1 (bases 1 to 451)

Ratts, K.J., Thompson, C.H., Cossart, Y.E. and Rose, B.R.
Watts, K.J., Thompson, C.H., Cossart, Y.E. and Rose, B.R.
Sequence variation and physical state of human papillomavirus type
16 cervical cancer isolates from Australia and New Caledonia
16 Tnt. J. Cancer 97 (6), 868-874 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (31-JUL-2001) Department of Infectious Diseases, University of Sydney, Blackburn Building, D06, Off Western Avenue, Camperdown, Sydney, New South Wales 2006, Australia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence variation and physical state of human papillomavirus type 16 cervical cancer isolates from Australia and New Caledonia Int. J. Cancer 97 (6), 868-874 (2002)
Submitted (31-JUL-2001) Department of Infectious Diseases, University of Sydney, Blackburn Building, D06, Off Western Camperdown, Sydney, New South Wales 2006, Australia Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AF404703 451 bp DNA linear Human papillomavirus type 16 isolate HPV16E6CC12 E6
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/db_xref="GI:15529597"
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/translation="prhDIILECVYCKQOLLRREVYDFAFRDLCIVYRDGNPYAVCDK
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/mol_type="genomic DNA"
/isolate="HPV16%6CC10"
                                                                                                                                                                                                             Cossart, Y.E. and Rose, B.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cossart, Y.E. and Rose, B.R.
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SOURCE
ORGANISM
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ACCESSION
VERSION
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AR177943
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VERSION
KEYWORDS
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SOURCE
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AR167393
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AR167393
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 Unknown
                                            Sequence 6
AR177943
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Kipps, T.J. and Wu, Y.
Vaccines with enhanced intracellular processing
Patent: US 6287569-A 29 11-SEP-2001;
                                                                                                                                                                                                                                                                                                                                           Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                 AR167393
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           Unknown
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                                                                    AR177943
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Similarity 100.0%;
28; Conservative 0;
                                                                                                                                                                                                                                                                                                                                Unclassified.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /gene="87"
/codon_start=1
/product="87 protein"
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/db_xref="GI:15529604"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /codon_start=3
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/translation="TIHNIILECVYCKQQLLRREVYDFAFRDLCIVYRDGNPYAVCDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Human papillomavirus type 16"
/mol type="genomic DNA"
/isolate="HPV16E6CC12"
                                                                                                                                                                                                                                 /mol_type="unassigned DNA"
                                                                                                                                                                                                                                              organism="unknown"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  translation="MHGDTPTLHEYMLDLQPE"
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                                                       from patent US
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                                  GI:17920298
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                                                                                                                                                                         Score 28; DB 2;
Pred. No. 0.0025;
; Mismatches 0
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Pred. No. 0.0025
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JS 6287569
                                                        456 bp
6313373.
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SOURCE
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VERSION
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AF327851
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TITLE
                                       Query Match
Best Local Similarity
Matches 28; Conserv
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
Direct Submission
Submitted (12-DEC-2000) Department
Xinjiang, 14 Shengli Road, Urumqi,
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human papillomavirus type 16
Human papillomavirus type 16
Viruses, dasDNA viruses, no RNA stage; Papillomaviridae;
Alphapapillomavirus.
1 (bases 1 to 456)
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Eckert,R.L. and Crish,J.F.
Tissue specific promoters and transgenic mouse for the screening pharmaceuticals
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human papillomavirus type (E6) gene, complete cds. AF327851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Biopsies in Xinjiang
Shengwu Huaxue Yu Shengwu Wuli Jinzhan (2001)
2 (Dases I to 456)
Ma, Z. and Zhang, F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zhang, F.
Cloning and Sequencing of HPV16 E6 gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ma, Z.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AF327851.1 GI:12025467
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
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GAACAGCAATACAACAAACCGTTGTG 28
                                  milarity 100.0%; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qian, D., Ma, J., Lin, R., Ming, W.,
                                                                                                              /product="early transforming protein E6 variant"
/protein_id="AAG45940.1"
/db_xref="G1:12025468"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="unknown"
/mol_type="unassigned
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/specific_host="Homo sapiens"
/db_xref="taxon:333760"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                        gene="E6"
codon_start=1
                                                                                                                                                                                                                                                    gene="E6"
                                                                                                                                                                                                                                                                                    note="HPV16"
                                                                                                                                                                                                                                                                                                                                                           organism="Human papillomavirus"
proviral
                                                                                                                                                                                                                                                                                                                                              mol_type="genomic DNA"
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Pred. No. 0.0025;
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Pred. No.
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early transforming protein E6 variant
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265

GAACAGCAATACAACAAACCGTTGTGTG 292

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ORGANISM
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HPU34108
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HPU34107
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and Jenison, S.A.

Human papillomavirus type 16 variant lineages in United States
populations characterized by nucleotide sequence analysis of th
B6, L2, and L1 coding segments
B6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                   456 bp DNA linear VRL 08-MAR-19.
Human papillomavirus type 16, isolate NM 9999, early transforming
protein E6 (E6) gene, complete cds.
U34108
                                                                                                                                                                                                                                                                                           456 bp DNA linear VRL 08-MAR-19.
Human papillomavirus type 16, isolate NM 4094, early transforming protein B6 (B6) gene, complete cds.
                                                Human papillomavirus
Human papillomavirus
Viruses; doBMA viruses, no RNA
unclassified Papillomaviridae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los Alamos, NM 87501, USA
              1 (bases 1 to 456)
Yamada,T., Wheeler,C.M., Halpern,A.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Parmer, A.D.
Direct Submission
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                                                                                                                                      U34108.1 GI:1098721
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1 (bases 1 to 456)
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Jenison, S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                /Godon_start=1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /db_xref="taxon:10566"
/note="collected by cervical swab
Mexico, New Mexico, United States
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Pred. No.
                                                                no RNA stage;
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                                                                  Papillomaviridae;
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                Stewart, A.C.,
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                Hildesheim, A.
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Matches 28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human papillomavirus type 16, isolate NM T197, ear protein E6 (E6) gene, complete cds.
                                                                                                   Submitted (16-AUG-1995) Andrew D. Laboratory, HIV Sequence Database Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 GAACAGCAATACAAACCGTTGTGTG 28
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Laboratory, HIV Sequence Database, T-10, Mail
Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                       Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments
J. virol. 69 (12), 7743-7753 (1995)
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Viruses; dsDNA viruses, no RNA stage; Papillomaviridae,
unclassified Papillomaviridae.
                                                                                                                                                                                                                                                                                                                                          1 (bases 1 to 456)
Yamada, T., Wheeler, C.M., Halpern, A.L., Stewart, A.C., Hildesheim, A.
                                                                                                                                                               Direct Submission
                                                                                                                                                                                                                         7494284
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                                                                            Location/Qualifiers
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Mexico, New Mexico, United States."
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/mol_type="genomic DNA"
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100.0%; Pred. No. 0.0025;
tive 0; Mismatches 0
                                                                                                                       Farmer, Los Alamos
, T-10, Mail Stop Ki
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                                                                                                                                                                                                                                                                                                            Farmer, A.D.

Parmer, A.D.

Direct Submission

Submitted (16-AUG-1995) Andrew D. F

Laboratory, HIV Sequence Database,

Laboratory, USA

197501, USA

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J. Virol. 69 (12),
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Human papillomavirus
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protein E6 (E6) gene,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Viruses; dsDNA viruses, no RNA unclassified Papillomaviridae.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 (bases 1 to 456)
Yamada, T., Wheeler, C.M., Halpern, A.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
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                                                                                                                                                                                             /note="collected by cervical swab at the University of New
Mexico, New Mexico, United States."
1. .456
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FAFRDLCIVYRDGNFYAVCDKCLKFYSKISEYRHYCYSVYGTTLEQQYNKFLCDLLIR
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CINCQKPLCPBEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
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                                                                                             /gene="E6"
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100.0%;
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Pred. No.
Score 28;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           no RNA stage; Papillomaviridae;
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           DB 10;
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Matches
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Human papillomavirus type 16, isolate NM T529, early transforming
protein E6 (E6) gene, complete cds.
U34112
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Viruses; dsDNA viruses, no RNA stage;
unclassified Papillomaviridae.
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Human papillomavirus type 16, isolate
protein E6 (E6) gene, complete cds.
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Human papillomavirus
Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
                                                         U34112.1
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Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and Jenison, S.A.
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Alamos, NM 87501,
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nada,T., Wheeler,C.M., Halpern,A.L.,
                                                                                                                                                                                                                                                                                                     100.0%;
llarity 100.0%;
Conservative 0
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                                                                                                                                                                                                                                                                                                                                                                                                   /translation="MFQDPQERPRKLPQLCTELQTTIHDIILECVYCKQQLLRREVYD
FAFRDLCIVYRDGNPYAVCDKCLKFYSKISBYRHYCYSLYGTTLBQQYNKPLCDLLIR
CINCQKPLCPBEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mexico,
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/product="early transforming protein
/protein_id="AAA91658.1"
/db_xref="GI:1098728"
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/note="collected by cervical swab at the University
/mexico, New Mexico, United States."
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                                                         GI:1098729
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mol_type="genomic DNA"
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87501, USA
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Best Local S
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Human papillomavirus type 16, protein we recommend
               Direct Submission
Submitted (16-AUG-1995) Andrew D. I
Laboratory, HIV Sequence Database,
Alamos, NM 87501, USA
                                                                                                                                  Human papillomavirus type 16 variant lineages in United populations characterized by nucleotide sequence analysi E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
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Yamada, T., Wheeler, C.M., Halpern, A.L.,
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Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
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Submitted (16-AUG-1995) Andrew
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J. Virol. 69 (12), 7743-7753 (1995)
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Yamada, T., Wheeler, C.M., Halpern, A.L.,
                                                                                Farmer, A.D.
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                                                                                                                                Virol. 69 (12),
                                                                                               (bases 1 to 456)
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llarity 100.0%;
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/codon_start=1
/product="early transforming protein E6"
/protein_id="AAA91659.1"
/db_xxef="GI:1098730"
/translation="MPQDPQERPRKLPHLCTELQTTIHDIILECVYCKQQLLRREVYD
/FAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRYYCYSVYGTLEGQYNKPLCDLLIR
Location/Qualifiers
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                             Farmer, Los Alamos National, T-10, Mail Stop K710, Los
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, T-10, Mail
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
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Stop K710, Los
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Best Local S
Matches 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
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                                                                                                                                                                 gene
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Human papillomavirus type 16, is
protein E6 (E6) gene, complete c
U34114
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                                                                                                                                                                                                                                                                                                                                    Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of th E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
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Yamada, T., Wheeler, C.M., Halpern, A.L.,
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Viruses; dsDNA viruses,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 U34114.1
                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                              Farmer, A.D
                                                                                                                                                                                                                                                                                                                                                                                                                                                     7494284
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unclassified Papillomaviridae.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /Codon_start=1
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/protein id="AAA91660.1"
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/gene="B6"
/codon_start=1
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/db_xref="GI:1098734"
/tzanslation="MFQDEQERPTKLPDLCTELQTTIHDIILECVYCKQQLLRREVYD /tzanslation="MFQDEQEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Human papillomavirus"
/mol type="genomic DNA"
/isolate="OR 0198"
                                                                                                                                                                                    /db xref="taxon:10566"
/note="collected by cervical lavage at Kaiser Permanente,
Portland, Oregon, United States."
                                                                                                                                                                                                                                           /organism="Human papillomavirus"
/mol_type="genomic DNA"
/isoTate="OR 1905"
                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
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Portland, Oregon, United States."
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                                                                                                                                               'gene="E6"
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Pred. No. 0.0025;
); Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     no RNA stage; Papillomaviridae
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isolate OR 1905, ear
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RESULT 33
HPU34116
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AUTHORS
TITLE
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KEYWORDS
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HPU34115
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                  DEFINITION
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Matches
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Best Local Similarity
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                                                                                                                                                                                            Local
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HPU34116 456 bp DN7
Human papillomavirus type 16, isolate
protein E6 (E6) gene, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human papillomavirus
Human papillomavirus
Viruses; daBNA viruses, no RNA
unclassified Papillomaviridae.
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Alamos, NM 87501, USA
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Yamada,T., Wheeler,C.M., Halpern,A.L.,
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protein E6 (E6) gene,
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ilarity 100.0%;
Conservative 0
                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                    /Codon_start=1
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/protein_id="AAA91662.1"
/db xref="e1:1098736"
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                                                                                                                                                                                                                                                                                                                                                                                                                                /noTe="collected by cervical lavage at Kaiser Permanente, Portland, Oregon, United States."
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                                                                                                                                                                                                                                                          CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                    gene="E6"
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MOL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  organism="Human papillomavirus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mol_type="genomic
isolate="OR 2087"
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s type 16, i
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                                                                                                                                                                          Score 28; DB 10;
Pred. No. 0.0025;
Mismatches 0
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Pred. No. 0.0025;
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, isolate OR 2087, early transforming
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                3136,
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Direct Submission
Submitted (16-AUG-1995) Andrew D. F
Laboratory, HIV Sequence Database,
Laboratory, USA
NM 87501, USA
                                                                                                                                                                                                                                                           456 bp DNA linear
Human papillomavirus type 16, isolate OR 3473, ear
protein E6 (E6) gene, complete cds.
U34117
                                                Human papiliomavirus type 16 variant lin
populations characterized by nucleotide
E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                            Human papillomavirus Viruses; dsDNA viruses, no RNA unclassified Papillomaviridae.
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Viruses; dsDNA viruses,
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     Farmer, A.D.
                                                                                                               and Jenison, S.A.
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Yamada, T., Wheeler, C.M., Halpern, A.L.,
                                                                                                                                                                                                         Human papillomavirus
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Yamada, T., Wheeler, C.M., Halpern, A.L.,
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                                   7494284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
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                (bases 1 to 456)
                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; ilarity 100.0%; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /Codon_start=1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /db_xref="taxon:10566"
/note="collected by cervical lavage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Portland, Oregon,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Human papillomavirus"
/mol_type="genomic DNA"
/isolate="OR 3136"
                                                                                                                                                                                                                                            GI:1098739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene="E6"
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Pred.
                                                                                                                                                                           no RNA stage; Papillomaviridae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                lineages in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10;
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                                                                                                                              Stewart, A.C., Hildesheim, A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                 sequence
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early transforming
                                                                                 analysis of the
                                                                                                United States
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HPU34118
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Best Local S
Matches 28
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PUBMED
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                                                                                                                                                                                                                                              Submitted (16-AUG-1995) Andrew D. Farmer, Los
Laboratory, HIV Sequence Database, T-10, Mail
Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                J. Virol. 69 (12),
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456 bp
Human papillomavirus type 16, isola
protein E6 (E6) gene, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 GAACAGCAATACAAACCGTTGTGTG 28
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Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 (bases 1 to 456)
Yamada, T., Wheeler, C.M., Halpern, A.L.,
and Jenison, S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus
                                                                                                                                                                                                                                                                                                                     Farmer, A.D.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Viruses; dsDNA viruses, no RNA stage; Papillomaviridae; unclassified Papillomaviridae.
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Similarity 100.0%; Pred. No. 0.(
28; Conservative 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                          n papillomavirus type 16 variant lineages in United States lations characterized by nucleotide sequence analysis of the L2, and L1 coding segments irol. 69 (12), 7743-7753 (1995)
/gene="E6"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="E6"
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                                                                                                                                                                         Tom/
                                                                                               Portland, Oregon,
                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="collected by cervical lavage at Kaiser Permanente,
Portland, Oregon, United States."
                                                             /gene="E6"
                                                                                               /noTe="collected by cervical lavage at Portland, Oregon, United States."
                                                                                                                                                                     organism="Human papillomavirus"
|mol_type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      organism="Human papillomavirus"
|mol_type="genomic DNA"
|isolate="OR 3473"
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                                                                                                                                                      isolate="OR 3759"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Stewart, A.C., Hildesheim, A.
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Stop K710, Los
                                                                                                                  Kaiser Permanente,
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                                                                      Query Match
Best Local S
Matches 28
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265 GAACAGCAATACAACAAACCGTTGTGTG 292
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Human papillomavirus type 16, isolate OR 4541, early transforming
protein E6 (E6) gene, complete cds.
U34119
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                               1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Laboratory, HIV Sequence
Alamos, NM 87501, USA
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Direct Submission
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Yamada,T., Wheeler,C.M., Halpern,A.L., Stewart,A.C., Hildesheim,A.
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llarity 100.0%;
Conservative 0;
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                                                                                                                                                                                /gene="B6"
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                                                                                                                                                                  CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL'
                                                                                                                                                                                                                                                                                                                                                                       /nore="collected by cervical lavage at Kaiser Permanente, Portland, Oregon, United States."
                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Human papillomavirus"
/mol_type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                               /mol_type="genomic
/isolate="OR 4541"
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                                                                                                                                                                                                                                                                                                                                     'gene="E6"
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                                                                      Score 28; DB 10;
Pred. No. 0.0025;
Mismatches 0
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Pred. No. 0.0025;
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                                                                                                         Length 456;
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HPU34121
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ORGANISM
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HPU34120
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JOURNAL
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Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
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                                                                              Human papillomavirus
Human papillomavirus
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
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1 (bases 1 to 456)
Yamada,T., Wheeler,C.M., Halpern,A.L., Stewart,A.C., Hildesheim,A.
and Jenison, S.A.

Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the
                                                                                                                                                                                                                    Human papillomavirus type protein E6 (E6) gene, comp
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Human papillomavirus
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                                               1 (bases 1 to 456)
Yamada, T., Wheeler, C.M., Halpern, A.L., Stewart, A.C., Hildesheim, A.
                                                                                                                                                                                   U34121.1 GI:1098747
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Direct Submission
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                                                                                                                                                                                                                                                                                                                                                                         GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                  GAACAGCAATACAACAAACCGTTGTGTG 292
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                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="collected by cervical lavage at Kaiser Permanente, Portland, Oregon, United States."
1. .456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /translation="MFQDPQERPRKLPQLCTELQTTIHEIILECVYCKQQLLRREVYD
FAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSLYGTTLEQQYNKPLCDLLIR
CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /codon start=1
/product="early transforming protein
protein id="AAA91667.1"
db_xref="GI:1098746"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'gene="E6"
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isolate="OR 4716"
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Pred. No. 0.0
0; Mismatches
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16, isolate
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y transforming
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HPU34122
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ORGANISM
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                                                                                                                                                                                                                                                  and Jenison,S.A.

Human papillomavirus type 16 variant lineages in populations characterized by nucleotide sequence E6, L2, and L1 coding segments
T virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28;
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456 bp DNA linear VRL 08-MAR-19
Human papillomavirus type 16, isolate OR 4997, early transforming
protein E6 (E6) gene, complete cds.
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                                                                                                                       Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
Alamos, NM 87501, USA
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                  unclassified Papillomaviridae.

1 (bases 1 to 456)
Yamada,T., Wheeler,C.M., Halpern,A.L.,
                                                                                                                                                                                                                                                                                                                                                                                                           Human papillomavirus
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 U34122.1 GI:1098749
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Direct Submission
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Direct Submission
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Alamos, NM 87501, USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /translation="mfQDFQERPRKLFQLCTELQTTIHDIILECVYCKQQLLRREVYD
FAFRDLCIVYRDGNFYAVCDKCLKFYSKISEYRHYCYSLYGTTLEQQYNKFLCDLLIR
CINCQKFLCFEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                     /organism="Human papillomavirus"
/mol_type="genomic DNA"
/isolate="OR 4997"
/db_xref="taxon:10566"
/noTe="collected by cervical lavage
Portland, Oregon, United States."
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/protein_id="AAA91668.1"
/db_xref="GI:1098748"
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/mol_type="genomic DNA"
/isolate="OR 4724"
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Portland, Oregon, United States."
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Pred. No.
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, T-10, Mail Stop K710, Los
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                                                                                                                                                                                                                                                                                                                                                    Stewart, A.C., Hildesheim, A.
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                      at Kaiser
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                                                                                                                                                                                                                                                                                                      analysis of the
                                                                                                                                                                                                                                                                                                                      United States
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                       Permanente,
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AUTHORS
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ORGANISM
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HPU34123
LOCUS
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Best Local S
Matches 28
   Best Local
Matches ;
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and Jenison, S.A.

Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments

J. Virol. 69 (12), 7743-7753 (1995)
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   28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human papillomavirus protein E6 (E6) gene, U34123
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                                                                                                                                                                                                                                                                                                                                                                       Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          unclassified Papillomaviridae.

1 (bases 1 to 456)

Yamada,T., Wheeler,C.M., Halpern,A.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human papillomavirus
Human papillomavirus
Viruses, dsNNA viruses, no RNA stage, Papillomaviridae,
                                                                                                                                                                                                                                                                                                                                                                                                                       Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                   Farmer, A.D.
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                 Similarity
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 Conservative
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/gene="E6"
/codon_start=1
/product="early transforming protein_E6"
/protein_id="AAA91669.1"
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CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
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/codon_start=1
/product='early transforming protein
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/db_xref="GI:1098752"
                                                                                                                                                                                                                                               Portland,
                                                                                                                                                                                                                                                  /note="collected by cervical lavage at Kaiser Permanente,
Portland, Oregon, United States."
                                                                                                                                                                                                                  'gene="E6"
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                                                                                                                                                                                                                                                                                             mol_type="genomic DNA"
isolate="OR 5110"
                                                                                                                                                                                                                                                                                                                            organism="Human papillomavirus"
                                                                                                                                                                                                                                    . .456
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                                                                                                                                                                                                                                                                                 xref="taxon:10566"
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100.0%; Score 28; DB 10;
100.0%; Pred. No. 0.0025;
tive 0; Mismatches C
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type 16, isolate OR 5110, early
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Pred. No.
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                              DB 10;
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                              Length
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                                                                                                                          RESULT 42
HPU34125
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HPU34124
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456 bp DNA linear VRL 08-MAR-19:
Human papillomavirus type 16, isolate OR 6106, early transforming
protein E6 (B6) gene, complete cds.
U34125
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Human papillomavirus type 16, isolate OR 5428, early transforming
protein E6 (E6) gene, complete cds.
U34124
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                     Human papillomavirus
Human papillomavirus
Viruses, dsDNA viruses,
                                                                                                                                                                                                                                                                                                                                                                 1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
Alamos, NM 87501, USA
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Human papillomavirus type 16 variant lineages in United States
Human papillomavirus type 16 variant lineages in United States
populations characterized by nucleotide sequence analysis of the
E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
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Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
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                                                                                                                 U34125.1 GI:1098755
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /translation="mfQDPQERPRKLPQLCTELQTTIHEIILECVYCKQQLLRREVYD
PAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSLYGTTLEQQYNKPLCDLLIR
CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /codon_start=1
/product="early transforming
/protein_id="AAA91671.1"
/db_xref="GI:1098754"
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Portland, Oregon, United States."
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/isoTate="OR 5428"
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|mol_type="genomic DNA"
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Pred. No. 0.0025;
; Mismatches 0
                     no RNA stage;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            265
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protein E6 (E6) gene, comp
U34126
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
Alamos, NM 87501, USA
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J. virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                              and Jenison, S.A.
Human papillomavirus type 16 variant lineages in United States
populations characterized by nucleotide sequence analysis of the
E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                           Viruses; dsDNA viruses, no RNA stage; Papillomaviridae; unclassified Papillomaviridae.

1 (bases 1 to 456)
                                                                                                                                                                                                                                                                                                                                             Human papillomavirus
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                                                     Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                  Human papillomavirus
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                                                                                                               Direct Submission
                                                                                                                            Farmer, A.D.
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                                                                                                                                           (bases 1 to 456)
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/codon_start=1
/codon_start=1
/product="early transforming protein E6"
/protein_id="AAA91672.1"
/protein_id="AAA91672.1"
/db_xref="G1:1098756"
/translation="MPGDPQBRPTKLPDLCTBLQTTIHDIILECVYCKQQLLRREVYD
FAFRDLCIVYRDGNPYAVCDKCLKFYSKISBYRYYCYSLYGTTLBQQYNKPLCDLLIR
/organism="Human papillomavirus"
                                Location/Qualifiers
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mol_type="genomic DNA"
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Pred. No. (
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RESULT 44
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human papiliomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments J. Virol. 69 (12), 7743-7753 (1995)
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                                                                                                                                                                                                                                                                                                                                                                                                                                      Farmer, A.D.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and Jenison, S.A.
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Yamada, T., Wheeler, C.M., Halpern, A.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    U34127.1 GI:1098759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       unclassified Papillomaviridae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7494284
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 456)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          papillomavirus
             /gene="E6"
/codon_start=1
/product='early transforming protein E6"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /translation="meQDPQERPRKLPQLCTELQTTIHDIILECVYCKQQLLRREVYD
FAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSLYGTTLEQQYNKPLCDLLIR
CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /db xref="taxon:10566"
/note="collected by cervical lavage at Kaiser Permanente,
Portland, Oregon, United States."
                                                                                                                                                                                                                          Portland, Oregon,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /codon_start=1
/product="earty transforming protein
/protein_id="AAA91673.1"
/db_xref="GI:1098758"
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/isolate="OR 6170"
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Portland, Oregon, United States."
                                                                                                                                                                                                                                                                                                        mo_
                                                                                                                                                                                   gene="E6"
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isolate="OR 6311"
                                                                                                                                                                                                                                                                                                                      organism="Human papillomavirus"
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Pred. No. 0.0025;
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                                                                                                                                                                                                                                                                                                      C DNA"
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HPU34129
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AUTHORS
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                                                      DEFINITION
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                     ACCESSION
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Matches 28
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Best Local S
Matches 28
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 Human papillomavirus type
protein E6 (E6) gene, comp
U34129
U34129.1 GI:1098763
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                                                                     HPU34129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified papillomaviridae.
1 (Dases 1 to 456)
Yamada,T., Wheeler,C.M., Halpern,A.L., Stewart,A.C., Hi
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Human papillomavirus
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                                                                                                                                                        GAACAGCAATACAACAAACCGTTGTGTG 292
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                                                                                                                                                                                                                                                                                                                       /gene="B6"
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/codon_start1y transforming protein E6"
/product="early transforming protein E6"
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                                                                                                                                                                                                                                                                                                             CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="collected by cervical lavage at Portland, Oregon, United States."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   organism="Human papillomavirus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mol_type="genomic DNA" isolate="OR 7145"
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                                                                                                                                                                                                                                        100.0%; Score 28;
100.0%; Pred. No.
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s type 16,
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, isolate OR
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, isolate OR
                                      cds.
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                                                 linear \
7574, early
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                                                                     VRL 08-MAR-1996
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                                                   transforming
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HPU34130
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  265
                                                               and Jenison, S.A.

and Jenison, S.A.

Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of tl B6, L2, and L1 coding segments

J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                       456 bp DNA linear VRL 08-MAR-19:
Human papillomavirus type 16, isolate OR 7587, early transforming
protein E6 (E6) gene, complete cds.
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                                                                                                                                                                                                                      Human papillomavirus
Viruses; dsDNA virus
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Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
Alamos, NM 87501, USA
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Human papillomavirus
Viruses; dabNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
Submitted (16-AUG-1995) Andrew D. Farmer,
                   Farmer, A.D.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                   Yamada, T., Wheeler, C.M., Halpern, A.L., Stewart, A.C., Hildesheim, A.
                                                                                                                                                                                                      Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
                                                                                                                                                                                                                                                        Human papillomavirus
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Yamada, T., Wheeler, C.M., Halpern, A.L., Stewart, A.C., Hildesheim, A.
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                                                   (bases 1 to 456)
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Pred. No.
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 Los Alamos National
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HPU34131
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ORGANISM
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Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
1 (bases 1 to 456)
Yamada, T., Wheeler, C.M., Halpern, A.L., Stewart, A.C., Hildesheim, A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    456 bp DNA linear VRL 08-MAR-1996 Human papillomavirus type 16, isolate OR 7632, early transforming protein E6 (E6) gene, complete cds.
                                                                                                                                                                                                                               Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 GAACAGCAATACAACAAACCGTTGTGTG 28
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                                                                                                                                                                                                                                                                              Farmer, A.D.
Direct Submission
                                                                                                                                                                                                                                                                                                                                         Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of tl E6, L2, and L1 coding segments J. Virol. 69 (12), 7743-7753 (1995)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /translation="MFQDFQERFTKLFDLCTELQTTIHDIILECVYCKQQLLRREVYD
FAFRDLCIVYRDGNFYAVCDKCLKFYSKISEYRYYCYSLYGTTLEQQYNKFLCDLLIR
CINCQKFLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
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/protein_id="AAA91678.1"
                                                                                                       Portland, Oregon,
                                                                                                                                                      organism="Human papillomavirus"
/mol_type="genomic DNA"
/isolate="OR 7632"
                                                                                                                                                                                                                  Location/Qualifiers
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/product="early transforming
/protein_id="AAA91677.1"
/db_xref="GI:1998766"
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                                                                                                       /note="collected by cervical lavage
portland, Oregon, United States."
                                               'gene="E6"
                                                                           'gene="E6"
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ate="OR 7587"
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Pred. No. 0.0025;
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                                                                                                                           Permanente
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   RESULT 50
HPU34133
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HPU34132
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Best Local
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Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (16-AUG-1995) A
Laboratory, HIV Sequence
Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments J. Virol. 69 (12), 7743-7753 (1995)
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Yamada, T., Wheeler, C.M., Halpern, A.L.,
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Viruses, dsDNA viruses, no RNA
unclassified Papillomaviridae.
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Direct Submission
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                                                                                              Similarity
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                                       GAACAGCAATACAACAAACCGTTGTGTG 28
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GAACAGCAATACAACAAACCGTTGTGTG 292
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                                                                              Conservative
                                                                                                                                                                   COOOON_Start=1
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Portland, Oregon, United States."
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/isolate="OR 8160"
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                                                                                                                                                                                                                                                                                                                 gene="E6"
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Pred. No. 0.0025;
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Pred. No.
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Best Local Similarity
Matches 28; Conservat
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                                                                                  Human papillomavirus
Human papillomavirus
Viruses, dabNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
1 (bases 1 to 456)
Yamada, T., Wheeler, C.M., Halpern, A.L., Stewart, A.C., Hildesheim, A. and Jenison, S.A.
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J. Virol. 69 (12), 7743-7753 (1995)
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Direct Submission
Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
Alamos, NM 87501, USA
Location/Qualifiers
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                                                                                                                                                                                                                                                            /gene="E6"
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/codon_start=1
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1. 456
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Human papillomavirus"
|mol type="genomic DNA"
|fsolate="OR 8329"
|db_xref="taxon:10566"
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Sequence 85
AR349145
AR349145.1
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Carter, N.M.
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Gen-Probe Incorporated; San Diego, CA
Location/Qualifiers
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/mol_type="genomic DNA"
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CR759968 Homo sapi
AL3254794 Human DNA
AC138702 Homo sapi
AC108406 Homo sapi
AC093009 Homo sapi
AC093009 Homo sapi
BX511247 Mouse DNA
AC136424 Homo sapi
CR759829 Human DNA
AF186395 Homo sapi
AC106033 Homo sapi
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AC106131 Homo sapi
AC1071163 Tachyglos
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Sequence 87 from patent US
AR349147
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Carter, N.M.
Nucleic acid probes complementary to human
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Gen-Probe Incorporated; San Diego, CA
Location/Qualifiers
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Carter, N.M.
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Gen-Probe Incorporated; San Diego, C
Location/Qualifiers
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Patent:
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US 6583278-A 88 24-JUN-2003;
                   acid probes
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/mol_type="genomic"
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/mol_type="genomic
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Walsh, C., Chao, H., Mansfield, G.S., Pattaraju, M.,
Garciamblanco, M.A. and Mitchell, L.G.
SPLICEOSOME MEDIATED RNA TRANS-SPLICING
Patent: JP 2005176849-A 118 07-JUL-2005;
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1 (bases 1 to 138)
Walsh, C., Chao, H., Mansfield, G.S., P.
GarciaMblanco, M.A. and Mitchell, L.G.
                                                   synthetic construct
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JP 2005176849-A/121.
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29-AUG-2001 US
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                                        other sequences; artificial sequences.
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08-JAN-2001 US 09/756095,08-JAN-2001 US 09/756096
AN-2001 US 09/756097,20-APR-2001 US 09/838858, PR
UG-2001 US 09/941492
christopher walsh,hengjun chao,gary s mansfield,madaia
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ng domain of human papilloma virus PTM
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              Baker, C.
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                                                                                                                                                                                                                                                                                                                                           Submitted (03-JUN-1996) Biology, DeKalb, IL 60115, USA
                                                                                                                                                                                                                                                                                                                                                                                                                               Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RN
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                                                                                                                                                                                                                                                                                                                                                                                     Shippy, R., Siwkowski, A. and Hampel, A.
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29-AUG-2001 US
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08-JAN-2001 US 09/756095,08-JAN-2001 US 09/838858,
NA-2001 US 09/756097,20-APR-2001 US 09/838858,
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JP 2005176849-A/121
07-JUL-2005
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            /note="site of mutation (nucleotide 442 in genome); T mutation results in an amino acid change from E to D the full-size transcript is translated"
                                                                                                                                                                                                     variant was verified with a sequencing"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="synthetic construct"
/mol_type="unassigned DNA"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                  variant"
                                                                                                                                                                                                                                  /db_xref="taxon:333760"
/map="155-506 in the genomic map"
/note="The mutation at site 442 i
                                                                                                                                                                                                                                                                                    /organism="Human papillomavirus
/mol type="mRNA"
                                                                                                            /protein_id="AAB03505.1"
/db_xref="GI:1405362"
                                                                                                                                                                                                                                                                                                                                ocation/Qualifiers
                                                                                             translation="ELQTTIHDIILECVYCKQQLLRREVY"
                                                                                                                                      codon_start=1
product="E6E7
                                                                                                                                                                              note="truncated
                                                                                                                                                                                                                                                                            strain="SIHA"
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VRL 06-JUL-1996

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e E6E7 major splice clones and PCR bat

batch

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HPU14515/c
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Human papillomavirus clone HPV1629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Direct Submission
Submitted (07-SEP-1994) Dante F. Galuti
Newfoundland, Discipline of Pathology,
Newfoundland, AlB 3V6, Canada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 (bases 1 to 245)
Haegert, D.G., Galutira, D.F. and Younghusband, B.H.
Sequence variation in the E6 gene of human papillomavirus
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Viruses; dsDNA viruses,
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                                                                                                                                                            /note="A to G t
Number K02718,
/replace="a"
                                    /note="T to G transversion fr
Number K02718, position 350;
/replace="t"
                                                                                                            /note="C to T transition Number K02718, position 3
                                                                                                                                                                                                                                      /note="T to A transversion from PA16, Number K02718, position 286; NCBI gi:
                                                                                                                                                                                                                                                                                       /Godon_start=2
/product="%6 protein"
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/protein_id="AB60569.2"
/db_xref="01:12831650"
/translation="VYDFAFRDLCIVYRDGNEYAVCDKCLKEYSKISBYRYYCYSVYG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Human papillomavirus"
/mol_type="genomic DNA"
/strain="HPV16"
 /gene="E6"
/note="A to
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NCBI gi: 333031"
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NCBI gi: 333031"
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215 CAGGACACAGTGGCTTTTGAC 195
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U14511.1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Galutira, D.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 (bases 1 to Haegert, D.G., G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
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                                                                                                                                                                                             /note="T to G transversion from PA16,
Number K02718, position 350; NCBI gi:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Human papillomavirus"
/mol_type="genomic DNA"
/strain="HPV16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                 'gene="E6"
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|. .253
                                                                                                                                                                                                                                                                                                                                                                                                                                             clone="HPV1601
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                                                                                                                           Score 21; DB
Pred. No. 0.2
); Mismatches
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Pred. No.
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papillomavirus
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DEFINITION

Human papillomavirus clone

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JOURNAL REFERENCE
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ORGANISM
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TITLE
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                                                                                                                                                                                                                                                                                                                                 215
                                                                                                                                 Human papillomavirus
Human papillomavirus
Viruses; dsDNA virus
Galutira, D.F.
Direct Submission
Submitted (07-SEP-1994)
                                                                       1 (bases 1 to 272)
Haegert, D.G., Galutira, D.F.
Sequence variation in the E
                                                                                                  Viruses; dsDNA viruses, no RNA unclassified Papillomaviridae.
1 (bases 1 to 272)
                                                                                                                                                                                                                                      HPU14513
272 bp
Human papillomavirus clone HPV1607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (07-SEP-1994) Dante F. Galutira, Memorial University of Newfoundland, Discipline of Pathology, Fac. Medicine, St. John's, Newfoundland, AlB 3V6, Canada
                                                                                                                                                                                            U14513.1 GI:984947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     unclassified Papillomaviridae.

1 (bases 1 to 271)

Haegert, D.G., Galutira, D.F. and Younghusband, B. Sequence variation in the E6 gene of human papi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Viruses;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human
                                                         Unpublished
                                                                                                                                                                                                             U14513
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Galutira, D.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence variation in Unpublished
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Human papillomavirus
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                                          (bases 1 to 272)
                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="T to G transversion from PA16, GenBank Accession
Number K02718, position 310; NCBI gi: 333031"
/replace="t"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  dsDNA viruses,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /translation="VYDFAFRDLCIVYRDGNPYAVCDKCLKLYSKISEYRHYCYSLYG
TTLEQQYNKPLCDLLIRCINCQKPLCPEEKQRHLDKKQRFHNIRGR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /codon_start=2
/product="B6 protein"
/protein_id="AAB60566.1"
/db_xref="GI:984946"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tissue_type="cervical tissue from invasive carcinoma"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        organism="Human papillomavirus"
|mol_type="genomic DNA"
|strain="HPV16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene="E6"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    . >271
                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                no RNA stage; Papillomaviridae;
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                                                                                                                                 RNA stage; Papillomaviridae;
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                                                                                        and Younghusband, B.
                                                                       gene
F. Galutira,
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E6 protein (E6)
                                                                          human
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                                                                      nd, B.H.
papillomavirus type 16
 Memorial University
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papillomavirus
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gene, partial
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 (bases 1 to 273)
Haegert,D.G., Galutira,D.F. and Younghusband,B.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (07-SEP-1994) Dante F. Galutira, Memorial University of Newfoundland, Discipline of Pathology, Fac. Medicine, St. John's, Newfoundland, AlB 3V6, Canada
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Galutira, D.F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Viruses; dsDNA viruses, no RNA stage; unclassified Papillomaviridae.
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/note="C to G transversion from PA16,
/note="C to G transversion from PA16,
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/note="C to G transversion from PA16,
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/note="E6"
/note="C to G transversion from PA16,
/note="C to G 
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/db_xref="GI:12831648"
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strain="HPV16"
                                                                                                                                                                                                                                                                                                                           organism="Human papillomavirus"
|mol_type="genomic DNA"
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!TLBQQYNKFLCDLLIRCINCQKFLCFEEKQRHLDKKQRFHNIRGR"
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|mol_type="genomic DNA"
                                                                                                gene="E6"
                                                                                                                                                gene="E6"
                                                                                                                                                                                    tissue_type="cervical tissue from invasive carcinoma" . .273
                                                                                                                                                                                                                                             db_xref="taxon:10566"
clone="HPV1627"
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HPV1627
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No.
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in (E6)
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gene, partial
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Direct Submission
Submitted (07-SEP-1994) Dante F. Galuti
Submitted, Discipline of Pathology,
Newfoundland, AlB 3V6, Canada
Location/Qualifiers
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U14516.1
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                                                                                                                                                                                                                                                                                                                                                                             Galutira, D.F.
                                                                                                                                                                                                                                                                                                                                                                                                      Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                     Haegert,D.G., Galutira,D.F. and Younghusband,B.H.
Sequence variation in the E6 gene of human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                  1 (bases 1 to Haegert, D.G., G
                                                                                                                                                                                                                                                                                                                                                                                                                                                            unclassified Papillomaviridae.
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  Number K02718,
                                                     /codon_start=2
/product="B6 protein"
/protein_id="AB60570.1"
/protein_id="AB60570.1"
/db_xref="01:984954"
/translation="VYDFAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRYYCYSVYG
/translation="VYDFAFRDLCIVCPEEKQRHLDKKQRFHNIRGRW"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           dsDNA viruses, no RNA stage;
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Number K02718, position 3
/replace="c"
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Number K02718,
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TTLEQQYNKPLCDLLIRCINCQKPLCPEEKQRHLDKKQRFHNIRGR"
/note="T to A transversion from PA16,
Number K02718, position 286; NCBI gi:
                                                                                                                                                                                                                                              /organism="Human papillomavirus"
/mol_type="genomic DNA"
/strain="HPV16"
                            /gene="E6"
                                                                                                                                             'gene="E6"
                                                                                                                                                                        'gene="E6"
                                                                                                                                                                                       tissue_type="cervical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GI:984953
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clone="HPV1649"
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AF404704
AF404704.1
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Direct Submission

Submitted (31-JUL-2001) Department of Infectious Diseases,
Submitted (31-yeney, Blackburn Building, D06, Off Western Avenue,
University of Sydney, New South Wales 2006, Australia
Camperdown, Sydney, New South Wales 2006, Australia
Location/Qualifiers
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Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage;
Alphapapillomavirus.
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                                                                                                                                                                                                                                                                                                                                                                                                    Int. J. (
                                                                                                                                                                                                                                                                                                                                                                                                              Watts, K.J., Thompson, C.H., Cossart, Y.E. and Rose, B.R. Sequence variation and physical state of human papillomavirus 16 cervical cancer isolates from Australia and New Caledonia 11t. J. Cancer 97 (6), 868-874 (2002)
                                                                                                                                                                                                                                                                                                                                                                       Watts, K.J.,
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Number K02718, ]
/replace="t"
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/prodein_id="AAL01365.1"
/protein_id="AAL01365.1"
/db_xref="e01:15529606"
/translation="DIILECVYCKQQLLRREVYDFAFRDLCIVYRDGNPYAVCDKCLK
/translation="DIILECVYCKQQLLRREVYDFAFRDLCIVYRDGNPYAVCDKCLK
                                                                                                                                                                                                                                   /organism="Human papillomavirus type 16'
/mol_type="genomic DNA"
/isolate="HPV16E6CC13"
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                                                                                                                                                                                                                      /db_xref="taxon:333760"
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NCBI gi:
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RESULT 16
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Genomic, 421 nt].
$51110
$51110.1 GI:262061
                                     S51110 orf E6 [human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (31-JUL-2001) Department of Infectious Diseases, University of Sydney, Blackburn Building, D06, Off Western Camperdown, Sydney, New South Wales 2006, Australia Location/Qualifiers
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11857370
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Watte, K.J., Thompson, C.H., Cossart, Y.E. and Rose, B.R.
Watte, K.J., Thompson, and physical state of human papillomavirus type
Sequence variation and physical state of human Papillomavirus type
16 cervical cancer isolates from Australia and New Caledonia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
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                                                                                                                                                                                                                            Similarity
                                                                                                                                              CAGGACACAGTGGCTTTTGAC 174
                                                                                                                                                                 CAGGACACAGTGGCTTTTGAC 21
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                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cancer 97 (6), 868-874 (2002)
                                                                                                                                                                                                                                                                                                      /gene="87"
/codon_start=1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <1. .313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Human papillomavirus
/mol type="genomic DNA"
/isolate="HFV16E6CC1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1. .370
                                                                                                                                                                                                                                                                                                                                                                                                       'gene="E7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    db_xref="taxon:333760"
                                                                                                                                                                                                                                                                                           translation="MHGDTPTLHEYMLDLQPE"
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Pred. No. 0
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HPV16E6CC1 E6 protein (E6) and
                                               16,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     type 16"
                                                                                                                                                                                                                                        Length 370;
                                               linear
head and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Western
                                                 neck tumor,
                                                              VRL 08-MAY-1993
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KEYWORDS
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AF404695/c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             451 bp DN Human papillomavirus type 16 isolate B7 protein (B7) genes, partial cds. AF404695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus type 16
Human papillomavirus type 16
Viruses, dsDNA viruses, no N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21;
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Human papillomavirus
Viruses; dsDNA viruses,
                                                                                                                                                                                                                                                             Submitted (31-JUL-2001) Department of Infectious Diseases, University of Sydney, Blackburn Building, D06, Off Westerr Camperdown, Sydney, New South Wales 2006, Australia Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                     Watts, K.J., Thompson, C.H., Cossart, Y.E. and Rose, B.R. Sequence variation and physical state of human papillomavirus type 16 cervical cancer isolates from Australia and New Caledonia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 (bases 1 to 421)
Tyan, Y.S., Liu, S.T., Ong, W.R., Chen, M.L.,
Detection of Epstein-Barr virus and human
                                                                                                                                                                                                                                                                                                                                 Watts,K.J., Thompson,C.H., Cossart,Y.E. and Rose,B.R. Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AF404695.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entry [NCBI gibbsq 120826] from the original journal article PCR primer sequences: 1-21 and 400-421.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GenBank staff at the National Library of Medicine created this
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8380183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and neck tumors
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Alphapapillomavirus.
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                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 451)
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                                                                                                                                                                                                                                                                                                                                                                                                        Cancer
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|isolate="HPV16E6CC4"
                                                                                                                           <1. .395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               organism="Human papillomavirus"
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/db_xref="taxon:10566"
                                                                                                                                                                        /db_xref="taxon:333760"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /gene="orf E6"
                                                                                                                                         'gene="E6"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . . 421
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100.0%; Pred.
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HPV16E6CC4 E6 protein (E6) and
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AF404696/c
ORIGIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (31-JUL-2001) Department of Infectious Diseases, University of Sydney, Blackburn Building, D06, Off Western Camperdown, Sydney, New South Wales 2006, Australia
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Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
Alphapapillomavirus.
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AF404696
AF404696.1 GI:15529581
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Human papillomavirus type 16 isolate HPV16E6CC5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
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Watts, K.J., Thompson, C.H., Cossart, Y.E. and Rose, B.R.
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                                                                                                                              /gene="E7"
398. .>451
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="E7"
398. .>451
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                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Human papillomavirus type 16"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Codon start=1
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                                                                                                            /gene="E7"
                                                                                                                                                                                                                                                                                                                                                            /gene="E6"
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Pred. No.
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Submitted (31-JUL-2001) Department of Infectious Diseases,
University of Sydney, Blackburn Building, D06, Off Western Avenue,
Camperdown, Sydney, New South Wales 2006, Australia
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human papillomavirus type 16
Human papillomavirus type 16
Viruses; daBNA viruses, no RNA stage; Papillomaviridae;
Alphapapillomavirus.
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Human papillomavirus type 16 isolate HPV16E6CC8 E6 protein (E6)
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CLKFYSKISEYRHYCYSVYGTTLEQQYNKPLCDLLIRCINCQKPLCPEBKQRHLDKKQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <1. .395
                                                                                                                                                                                                                             /codon_start=1
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                                                                                                                                                                                                                  translation="MHGDTPTLHEYMLDLHPE"
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protein (E6) and
   VRL 09-OCT-2003
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                                                       Human papillomavirus type 16
Human papillomavirus type 16
Viruses, dsDNA viruses, no RNA
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and E7 protein (E7) genes,
AF404701
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1 (bases 1 to 451)
Watts, K.J., Thompson, C.H., Cossart, Y.E. and Rose, B.R.
Sequence variation and physical state of human papillomavirus type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human papillomavirus type 16 isolate HPV16E6CC9 E6 protein (E6)
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                                              Alphapapillomavirus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /translation="TIHDIILECVYCKQQLLRREVYDFAFRDLCIVYRDGNPYAVCDK
CLKFYSKISEYRHYCYSVYGTTLEQQYNKPLCDLLIRCINCQKPLCPEEKQRHLDKKQ
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Pred. No.
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s, partial cd
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                                                          stage; Papillomaviridae;
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                              Location/Qualifiers
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/isolate="HPV16E6CC10"
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Pred. No.
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2 (bases 1 to 451)
Watts,K.J., Thompson,C.H., Cossart,Y.E. and Rose,B.R.
Direct Submission
Submitted (31-JUL-2001) Department of Infectious Diseases,
University of Sydney, Blackburn Building, D06, Off Western
Camperdown, Sydney, New South Wales 2006, Australia
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Human papillomavirus type 16
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
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451 bp DNA linear VRL 09-OCT-2
Human papillomavirus type 16 isolate HPV16E6CC12 E6 protein (E6)
and E7 protein (E7) genes, partial cds.
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RFHNIRGRWTGRCMSCCRSSRTRRETQL"
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AR177943/c
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Sequence 29
AR167393
AR167393.1
                                                 AR177943
Sequence 6 :
AR177943
AR177943.1
                                                                                                                                                                                                     21;
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                                                                                                                                                                                                                                                                                         1 (bases 1 to 456)

Kipps, T.J. and Wu, Y.

Vaccines with enhanced intracellular processing

Patent: US 6287569-A 29 11-SEP-2001;

Location/Qualifiers

1. .456
Unknown.
Unclassified
                                                                                                                                                                                                                                                                                                                                                                                 Unknown
                                                                                                                                                                                                                                                                                                                                                                                          Unknown.
                          Unknown.
                                                                                                                                                                                                                                                                                                                                                                  Unclassified.
                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity 100.
21; Conservative
                                                                                                                                                                 CAGGACACAGTGGCTTTTGAC 21
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                                                                                                                                                                                                                                                                                                                                                                                                                                             29 from patent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /Godon_start=3
/product="86 protein"
/product="86 protein"
/protein id="ALD1363.1"
/db_xref="GI:15529603"
/db_xref="THNIILECYYCKQOLLRREVYDFAFRDLCIVYRDGNPYAVCDK
/translation="THNIILECYYCKQOLLRREVYDFAFRDLCIVYRDGNPYAVCDK
CLKFYSKISSYRHYYYSLYGTTLEQQXNKPLCDLLIRCINCQKPLCPEEKQRHLDKKQ
RFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /mol type="genomic DNA"
/isolate="HPV16E6CC12"
/db xref="taxon:333760"
<1._.395</pre>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /codon_start=1
/product="E7 protein"
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/db_xref="GI:15529604"
                                                                                                                                                                                                                                                                /organism="unknown"
/mol_type="unassigned
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     translation="MHGDTPTLHEYMLDLQPE"/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'gene="E6"
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                                                                         from
                                                                                                                                                                                                                                                                                                                                                                                                                     GI:17903171
                                                                                                                                                                                                                100.0%; Score 21; 100.0%; Pred. No.
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3 6313373.
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                                                                                                                                                                                                                           Length 456
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AF327851/c
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Best Local S
Matches 21
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                1 CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cloning and Sequencing of HPV16 B6 gene from (Biopsies in Xinjiang Shengwu Huaxue Yu Shengwu Wuli Jinzhan (2001) (bases 1 to 456)
Ma,Z. and Zhang,F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human papillomavirus type (E6) gene, complete cds. AF327851 AF327851.1 GI:12025467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CAGGACACAGTGGCTTTTGAC 21
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Eckert, R.L. and Crish, J.F.

Tissue specific promoters and transgenic mouse pharmaceuticals

Patent: US 6313373-A 6 06-NOV-2001;
                                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
Submitted (12-DEC-2000) Department
Sinjiang, 14 Shengli Road, Urumqi,
Xinjiang, 14 Coation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human papillomavirus type 16
Human papillomavirus type 16
Viruses; dsDNA viruses, no Ri
                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ma, Z., Qian, D., Ma, J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alphapapillomavirus.

1 (bases 1 to 456)
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CAGGACACAGTGGCTTTTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 21; Dilarity 100.0%; Pred. No. 0.: Conservative 0; Mismatches
                                                      100.0%; llarity 100.0%; Conservative 0
                                                                                                                         /Godon_start=1
/product="early transforming protein E6 variant"
/protein_id="AAG45940.1"
/protein_id="AAG45940.1"
/db_xref="G1:12025468"
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FAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSVYGTTLEQQYNKPLCDLLIR
CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                        /specific host="Homo sapiens"
/db xref="taxon:333760"
/note="HPV16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="unknown"
/mol_type="unassigned DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1. .456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                  mol_type="genomic DNA"
strain="Xinjiang"
                                                                                                                                                                                                                                                                                                                                                                                organism="Human papillomavirus type 16"
                                                                                                                                                                                                                                  gene="E6"
                                                                                                                                                                                                                                                                                                                                                                  proviral
                                                                                                                                                                                                                                                              gene="E6"
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                                                                                                                                                                                                                                                                                .456
                                                      ٥,
                                                                      Score 21; I
Pred. No. 0.
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317
                                                         Mismatches
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early
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                                                                                     DB 10; Length 456;
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                                                                                                                                                                                                                                                                                                                                                                                                                         of Biology, University of Xinjiang 830046, P.R. China
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                                                         Indels
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RESULT 27
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HPU34107/c
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Best Local :
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                                                                                                                                                                                                                                                                                              337
                                                                                                                                                           456 bp DNA linear VRL 08-WAR-19:
Human papillomavirus type 16, isolate NM 9999, early transforming
protein E6 (E6) gene, complete cds.
U34108
                                                           Human papillomavirus
Viruses; dsDNA viruses, no RNA
unclassified Papillomaviridae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    J. Virol. 69 (12),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (16-AUG-1995) Andrew
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and Jenison, S.A.
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                                                                                                                                             U34108.1 GI:1098721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alamos,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             U34107.1 GI:1098719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HPU34107
               Yamada, T., Wheeler, C.M., and Jenison, S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Laboratory, HIV Sequence Database, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
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                                                                                                           Human papillomavirus
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                                              (bases 1 to 456)
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                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           papillomavirus
es; dsDNA viruses,
papillomavirus type 16 variant lineages
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /db_xref="taxon:10566"
/note="collected by cervical swab at the University of New
Mexico, New Mexico, United States."
1. .456
                                                                                                                                                                                                                                                                                                                                                                                                                                          /translation="MFQDPQERPRKLPHLCTELQTTIHDIILECVYCKQQLLRREVYD
FAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRYYCYSVYGTTLEQQYNKPLCDLLIR
CINCQKPLCPEEKQRHLDKKQRPHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /Godon_start=1
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/protein_id="AAA91654.1"
/bb_xref="GI:1098720"
/db_xref="GI:098720"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        organism="Human papillomavirus"

(mol_type="genomic DNA"

1solate="NM 4094"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'gene="E6"
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, complete cds.
                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                        Score 21; DB 10;
Pred. No. 0.3;
                                                                                                                                                                                                                                                                                              317
                                                                            no RNA stage;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         no RNA stage; Papillomaviridae;
                              Halpern, A.L.,
                                                                                                                                                                                                                                                                                                                                                            Mismatches
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16, isolate NM 4094, early
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Farmer, Los
, T-10, Mail
                                                                              Papillomaviridae;
                             Stewart, A.C., Hildesheim, A.
                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Stewart, A.C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sequence analysis of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Los Alamos National
Mail Stop K710, Los
                                                                                                                                                                                                                                                                                                                                                                                          Length 456;
                                                                                                                                                                                                                                                                                                                                                            Indels
 'n
 United States
                                                                                                                                                                                                            VRL 08-MAR-1996
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KEYWORDS
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HPU34109/c
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                                                                                                          FEATURES
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    456 bp
Human papillomavirus type 16, isola
protein E6 (E6) gene, complete cds.
U34109
                                                                                                                                                                                                                                                                                                                                                                           Human papillomavirus
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae,
unclassified Papillomaviridae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments J. Virol. 69 (12), 7743-7753 (1995) 7494284
                                                                                                                                                             Submitted (16-AUG-1995)
                                                                                                                                                                              Farmer, A.D.
Direct Submission
                                                                                                                                                                                                                                        E6, L2, and L. J. Virol. 69 (12),
                                                                                                                                                                                                                                                   Human papillomavirus type 16 variant lineages in populations characterized by mucleotide sequence E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                                          and Jenison, S.A.
                                                                                                                                                                                                                                                                                                                                         1 (bases 1 to 456)
Yamada,T., Wheeler,C.M., Halpern,A.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                               Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      U34109.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Direct Submission
                                                                                                                         Laboratory, HIV s
Alamoв, NM 87501,
                                                                                                                                                                                                                                    7494284
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llarity 100.0%;
Conservative 0
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/translation="MFQDFQERPRKLFHLCTELQTTYCTSVYGTTLEQQYNKFLCDLLIR
FAFRDLCIVYEDGNFYAVCDKCLKFYSKISERTYYCTSVYGTTLEQQYNKFLCDLLIR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /noTe="collected by cervical swab at the University of New
Mexico, New Mexico, United States."
db_xref="taxon:10566"
/note="collected by cervical swab at the University of New
                                     /mol_type="genomic
/isolate="NM T197"
                                                      organism="Human papillomavirus"
|mol_type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GI:1098723
                                                                                                          location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      db xref="taxon:10566"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'mol_type="genomic
'isolate="NM 9999"
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37501, USA
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Pred. No. 0.3;
                                                                                                                                            Andrew D. Farmer, Los Alamos National
e Database, T-10, Mail Stop K710, Los
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                                                                                                                                                                                                                                                                                     neages in United States sequence analysis of the
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VRL 08-MAR-1996

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HPU34110/c
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  Best Local
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456 bp DNA linear VRL 08-MAR-19:
Human papillomavirus type 16, isolate NM T446, early transforming
protein E6 (E6) gene, complete cds.
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Human papillomavirus
Viruses, dsDNA viruses,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Laboratory, HIV Sequence Database, Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (16-AUG-1995) Andrew D. Farmer, Los Laboratory, HIV Sequence Database, T-10, Mail
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 (bases 1 to 456)
Yamada, T., Wheeler, C.M., Halpern, A.L.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               J. Virol. 69 (12),
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                       Similarity
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    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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/protein_id="AAA91657.1"
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/transforming protein_E6"
/transforming-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-company-compan
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PAPRDLCIVYEDGNPYAVCDKCKEYYSKISEYNHYCTTHYOTHEQQYKKPLCDLLIR
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                                                                                                                                                                                                                                                                                                                                                                      Mexico,
                                                                                                                                                                                                                                                                                                                                                                                                                                      /mol_type="genomic DNA"
/isolate="NM T446"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                      'gene="E6"
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ico, New Mexico, Un
100.0%; (
100.0%; (
tive 0;
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  Score 21; DB
Pred. No. 0.3
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United States."
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No.
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                     DB 10;
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0.3;
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Stop K710, Los
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HPU34111/c
LOCUS
DEFINITION
                                                                  ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                 RESULT 31
HPU34112/c
LOCUS
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VERSION
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                                                                                                                                                            DEFINITION
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Best Local 9
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                                                                              456 bp DNA
Human papillomavirus type 16, isolate
protein E6 (E6) gene, complete cds.
U34112
U34112.1 GI:1098729
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Human papillomavirus
Human papillomavirus
Viruses; dsDNA viruses,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (16-AUG-1995) /
Laboratory, HIV Sequence
Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human papillomavirus
Viruses; dsDNA viruses,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Viruses; dsDNA viruses, no RNA stage; unclassified Papillomaviridae.
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                                                                                                                                                                                                                                                                                                      CAGGACACAGTGGCTTTTGAC 317
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                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /codon_start=1
/product==early_transforming_protein_86"
/protein_id="AAA91658.1"
/protein_id="AAA91658.1"
/db_xref="GI:1098728"
/translation="MFQDFQREPKLPQLCTELQTTIHDIILECVYCKQQLLRREVYDFAFRDLCIVXDDGNP%QDFQREPKLFYSKISKYRHYCYSLYGTTLEQQYMKPLCDLLIRCINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /noTe="collected by cervical swab at the University of New
Mexico, New Mexico, United States."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Human papillomavirus"
/mol type="genomic DNA"
/isolate="NM T455"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:10566"
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Pred. No. 0.3
0; Mismatches
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B Database, T-10, I
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  RNA stage;
                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 10; Length 456;
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  Papillomaviridae;
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NM T455, ear
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K710, Los

VRL 08-MAR-1996

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AUTHORS
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HPU34113/c
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ORGANISM
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                                                     TITLE
JOURNAL
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Best Local
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         Farmer, A.D.

Direct Submission
Submitted (16-AUG-1995) Andrew D. F
Laboratory, HIV Sequence Database,
Alamos, NM 87501, USA

Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                 Human papillomavirus
Human papillomavirus
Viruses; dsNNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
                                                                                                                                J. Virol. 69 (12),
                                                                                                                                          Human papiliomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the B6, L2, and L1 coding segments J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                               1 (bases 1 to 456)
Yamada, T., Wheeler, C.M., Halpern, A.L.,
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Submitted (16-AUG-1995) Andrew D.
Laboratory, HIV Sequence Database,
Alamos, NM 87501, USA
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J. Virol. 69 (12), 7743-7753 (1995)
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Yamada,T., Wheeler,C.M., Halpern,A.L., Stewart,A.C.,
                                                                                                                                                                                                                      and Jenison, S.A.
                                                                                                                                                                                                                                                                                                                                                                  U34113.1 GI:1098731
                                                                                                                                                                                                                                                                                                                                                                                                Human papillomavirus type
protein E6 (E6) gene, comp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Farmer, A.D.
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                                                                                                          (bases 1 to 456)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /db_xref="taxon:10566"
/note="collected by cervical swab at the University of
Mexico, New Mexico, United States."
1. .456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /translation="mfQDPQERPRKLPHLCTELQTTIHDIILECVYCKQQLLRREVYD
FAFRDLCIVYRDGNPYAVCDKCLKFYSKISBYRYYCYSVYGTTLEQQYNKFLCDLLIR
CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /product="early transforming protein
/protein_id="AAA91659.1"
/db_xref="GI:1098730"
 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       organism="Human papillomavirus"
|mol_type="genomic DNA"
|isolate="NM T529"
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100.0%; Pred. No. 0.
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3 16, isolate OR 0198,
                                     Farmer,
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                                                                                                                                                                                                                                     Stewart, A.C.,
                                    , Los Alamos National
Mail Stop K710, Los
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 456;
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                                                                                                                                                                                analysis of the
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                                                                                                                                                                                                                                       Hildesheim, A.
                                                                                                                                                                                                                                                                                                                                                                                                                     transforming
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HPU34114/c
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SOURCE
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TITLE
JOURNAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and Jenison, S.A.

and Jenison, S.A.

Human papillomavirus type 16 variant lineages in United States
populations characterized by nucleotide sequence analysis of the
E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               456 bp DNA linear VRL 08-MAR-19: Human papillomavirus type 16, isolate OR 1905, early transforming protein B6 (B6) gene, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human papillomavirus
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                        Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 (bases 1 to 456)
Yamada,T., Wheeler,C.M., Halpern,A.L., Stewart,A.C., Hildesheim,A.
                                                                                                                                                                                                                                                                                                                                                       Alamos,
                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /codon_start=1
/product="earty transforming protein E6"
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/protein_id="AAA91660.1"
/db_xref="e1:1098732"
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CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
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/product="early transforming protein
/protein_id="AAA91661.1"
/db_xref="GI:1098734"
                                                                                                                                                                                                  Portland,
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                                                                                                                                                                                                                                                          organism="Human papillomavirus"
|mol_type="genomic DNA"
|isolate="OR 1905"
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/isolate="OR 0198"
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                                                                                                                                                                                                  /note="collected by cervical lavage at Kaiser
/nortland, Oregon, United States."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="collected by cervical lavage
Portland, Oregon, United States."
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                                                                                                                             'gene="E6"
                                                                                                                                                              'gene="E6"
                                                                                                                                                                                                                                           db_xref="taxon:10566"
                                                                                                                                                                                                                                                                                                                                   ocation/Qualifiers
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Pred. No.
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HPU34116/c
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Matches 2
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Human papillomavirus type 16, isolate OR 2087, early
protein E6 (E6) gene, complete cds.
U34115
456 bp
Human papillomavirus type 16, isola
protein E6 (E6) gene, complete cds.
U34116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (16-AUG-1995) Andrew D. |
Laboratory, HIV Sequence Database,
Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the 86, L2, and L1 coding segments
J. Vicol. 69 (12), 7743-7753 (1995)
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Yamada, T., Wheeler, C.M., Halpern, A.L.,
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Human papillomavirus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Viruses, dsDNA viruses, no RNA stage;
unclassified Papillomaviridae.
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                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                    /gene="E6"
/codon_start=1
/roduct="early transforming protein E6"
/product="early transforming protein E6"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'gene="56"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="collected by cervical lavage at
Portland, Oregon, United States."
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isolate="OR 2087"
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                                                                                                                                                                                                                                                                                          100.0%; Score 21; 100.0%; Pred. No.
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                                              isolate OR 3136, early transforming
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, T-10, Mail
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Stop K710, Los
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                                                                   VRL 08-MAR-1996
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ORGANISM
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HPU34117/c
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Human papillomavirus type 16 variant lin
populations characterized by nucleotide
E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                       Human papillomavirus
Human papillomavirus
Viruses; dsDNA viruse
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Viruses; dsDNA viruses, no RNA stage;
unclassified Papillomaviridae.
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Yamada, T., Wheeler, C.M., Halpern, A.L.,
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    Farmer, A.D.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Laboratory, HIV Sequence
Alamos, NM 87501, USA
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                                                                                                                                                                                                    1 (bases 1 to 456)
Yamada,T., Wheeler,C.M., Halpern,A.L.,
                                                                                                                                                                                                                                                  unclassified Papillomaviridae.
                                                                                                                                                                                                                                                                                                                                                                 U34117.1 GI:1098739
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 456)
                                           (bases 1 to 456)
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/isolate="OR 3136"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /db xref="taxon:10566"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            organism="Human papillomavirus"
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Pred. No. 0.3;
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and Jenison, S.A.

and Jenison, S.A.

Human papillomavirus type 16 variant lineages in United States
Human papillomavirus type 16 variant lineages in United States
populations characterized by nucleotide sequence analysis of the
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Human papillomavirus type 16, isolate OR 3473,
protein E6 (E6) gene, complete cds.
U34117
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         dsDNA viruses, no RNA stage; Papillomaviridae;
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/product="early transforming protein E6"
/protein_id="AAA91663.1"
/db_xrefs="G1:1098738"
/translation="MFQDPQERPRKLPHLCTELQTTIHDIILECVYCKQQLLRREVYD FAFRDLCIVYRDGNPYAVCDKCLKFYSKISBYRYYCYSVYGTTLBQQYNKPLCDLLIR CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
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m noar Le} = "collected by cervical lavage at Kaiser Permanente, Portland, Oregon, United States."
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HPU34118/c
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VERSION
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human papillomavirus
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein E6 (E6)
U34118
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                                                                                                                                                                                                                                                                         Submitted (16-AUG-1995) Andrew D.
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Alamos, NM 87501, USA
Location/Qualifiers
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Alamos, NM 87501, USA
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Yamada,T., Wheeler,C.M., Halpern,A.L.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /product="early transforming protein E6"
(protein id="AAA,91664.1"
/db_xref="G1:1098740"
/translation="MEQDEQERPIKLEDLCTELQTTIHDIILECVYCKQQLLRREVYD
FAFRDLCIVYRDGNPYAVCDKCLKFYSKISBYRYYCYSLYGTTLBQQYNKFLCDLLIR
                                                                                                CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:10566"
/note="collected by cervical lavage at Kaiser Permanente,
portland, Oregon, United States."
/gene="E6"
/codon_start=1
/product="early transforming protein E6"
                                                                                                                                                  organism="Human papillomavirus"

(mol type="genomic DNA"

(isolate="OR 3759"
                                                                                                                                                                                                                    Location/Qualifiers
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/codon_start=1
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                                                                      'gene="E6"
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mol_type="genomic DNA"
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Pred. No. 0.3
); Mismatches
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HPU34119/c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human papillomavirus type 16 variant lineages in populations characterized by nucleotide sequence E6, L2, and L1 coding segments J. Virol. 69 (12), 7743-7753 (1995)
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Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Alamos,
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Direct Submission
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Yamada, T., Wheeler, C.M., Halpern, A.L.,
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CAGGACACAGTGGCTTTTGAC
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                                                           Conservative
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                                                                                                                                                    /gene="B6"
/codon_start=1
/codouct="early transforming protein E6"
/product="early transforming protein E6"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /translation="mfQDPQERPIKLPDLCTELQTTIHDIILECVYCKQQLLRREVYD
FAFRDLCIVYRDGNPYAVCDKCLKFYSKISBYRYYCYSLYGTTLEQQYNKPLCDLLIR
CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                         CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
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/db_xref="GI:1098742"
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                                                                                                                                                                                                                                                                                gene="E6"
                                                                                                                                                                                                                                                                                                                        'note="collected by cervical lavage at Kaiser
                                                                                                                                                                                                                                                                                                                                             db_xref="taxon:10566"
                                                                                                                                                                                                                                                                                                                                                                             organism="Human papillomavirus"
mol_type="genomic DNA"
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Pred. No.
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RESULT 39

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HPU34121/c
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                                                                                            REFERENCE
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Best Local S
Matches 21
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Human papillomavirus type 16, isolate OR 4716, early transforming
protein E6 (E6) gene, complete cds.
                                                                                                                                                                                                         456 bp
Human papillomavirus type 16, isola
protein E6 (E6) gene, complete cds.
U34121
1 (bases 1 to 456)
Yamada, T., Wheeler, C.M., Halpern, A.L., Stewart, A.C., Hildesheim, P. and Jenison, S.A.
and Jenison, S.A.
Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the 86, L2, and L1 coding segments
                                                                                                                                                                                                                                                                                                                                                                                  1 CAGGACACAGTGGCTTTTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (16-AUG-1995) Andrew D. Laboratory, HIV Sequence Database, Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus
Viruses; dsDNA virus
                                                                                                                                          Human papillomavirus
Human papillomavirus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments J. virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 (bases 1 to 456)
Yamada,T., Wheeler,C.M., Halpern,A.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Viruses; dsDNA viruses, no RNA stage;
unclassified Papillomaviridae.
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                                                                                                          Viruses; dsDNA viruses, no RNA
unclassified Papillomaviridae.
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                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity 100.
21; Conservative
                                                                                                                                                                                                                                                                                                                                                  CAGGACACAGTGGCTTTTGAC 317
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /codon_start=1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Human papillomavirus"
/mol type="genomic DNA"
/isolate="OR 4716"
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/note="collected by cervical lavage at Kaiser Permanente,
Portland, Oregon, United States."
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100.0%; Pred. No.
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                                                                                                                          no RNA stage; Papillomaviridae;
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, T-10, Mail
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Stop K710, Los
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HPU34122/c
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AUTHORS
TITLE
                                                                                                                              Submill Alamos, NM 87501, USA Alamos, NM 87501, USA Location/Qualifiers 456
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456 bp DNA linear VRL 08-MAR-19: Human papillomavirus type 16, isolate OR 4997, early transforming protein E6 (E6) gene, complete cds.
                                                                                                                                                                                                                                                                                                                                                   and Jenison, S.A.
Human papillomavirus type 16 variant lineages in United States
populations characterized by nucleotide sequence analysis of th
E6, L2, and L1 coding segments
J. Vicol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                       Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21;
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Human papillomavirus
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                                                                                                                                                                                                                                                               Direct Submission
                                                                                                                                                                                                                                                                                                                                     7494284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 (bases 1 to 456)
Yamada, T., Wheeler, C.M., Halpern, A.L., Stewart, A.C., Hildesheim, A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /no\bar{\tau}e="collected by cervical lavage at Kaiser Permanente, Portland, Oregon, United States."
Portland, Oregon,
1. .456
                /note="collected by cervical lavage at Kaiser Permanente, Portland, Oregon, United States."
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/isolate="OR 4724"
                                                                                    /mol_type="genomic
/isolate="OR 4997"
                                                                                                           /organism="Human papillomavirus"
/mol_type="genomic DNA"
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Pred. No. 0.3;
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SOURCE
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HPU34123/c
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Best Local
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and Jenison, S.A.

Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the B6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CAGGACACAGTGGCTTTTGAC
 1 CAGGACACAGTGGCTTTTGAC 21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Farmer, A.D.
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                                                 Similarity
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                                 Conservative
                                                                                                                            /codon_start=1
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/translation="MFQDPQERPRKLPQLCTELQTTHDIILECVYCKQQLLRREVYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /translation="mfQDPQERPRKLPQLCTELQTTIHDIILECVYCKQQLLRREVYD
PAFRDLCIVYKNGNPYAVCDKCLKFYSKISBYRHYCYSVYGTTLEQQYNKPLCDLLIR
CINCQKPLCPEBKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                     CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                    /noTe="collected by cervical lavage at Kaiser Permanente,
Portland, Oregon, United States."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /codon_start=1
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/protein_id="AAA9169.1"
/db_xref="GI:1098750"
                                                                                                                                                                                                                                                                      'gene="E6"
                                                                                                                                                                                                                                                                                                                                                          organism="Human papillomavirus"
|mol_type="genomic DNA"
|isolate="OR 5110"
                                                                                                                                                                                                                                                                                                                                                                                                                            location/Qualifiers
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Human papillomavirus
Human papillomavirus
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
1 (bases 1 to 456)
                                                                                                                456 bp DNA linear VRL 08-MAR-1999. Human papillomavirus type 16, isolate OR 6106, early transforming protein E6 (E6) gene, complete cds.
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456 bp
Human papillomavirus type 16, isola
protein E6 (E6) gene, complete cds
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments L2, and L1 coding segments J. Virol. 69 (12), 7743-7753 (1995)
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                                                                                                    U34125.1 GI:1098755
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Direct Submission
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Yamada,T., Wheeler,C.M., Halpern,A.L.,
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FAFRDLCIVYRDGNPYAVCDKCLKFYSKISBYRHYCYSLYGTTLEQQYNKFLCDLLIR
CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
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/product="early transforming
/protein_id="AAA91671.1"
/db_xref="GI:1098754"
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'note="collected by cervical lavage at
'ortland, Oregon, United States."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene="E6"
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Stop K710, Los
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HPU34126/c
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                                                            Parmer, .... Parmer D. I Direct Submission Submitted (16-AUG-1995) Andrew D. I Laboratory, HIV Sequence Database, NM 87501, USA.
                                                                                                                                                                                                                                                                                                                                                                                                                                         456 bp DNA linear Human papillomavirus type 16, isolate OR 6170, ear protein B6 (B6) gene, complete cds.
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Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the B6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
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J. virol. 69 (12), 7743-7753 (1995)
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Direct Submission

Submitted (16-AUG-1995) Andrew D. I

Laboratory, HIV Sequence Database,
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Yamada,T., Wheeler,C.M., Halpern,A.L.,
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                                                                                                                                                                                                  Virol. 69 (12),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (bases 1 to 456)
                                                                                                                                                                (bases 1 to 456)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NM 87501,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /gene="E6"
/gene="E6"
/codon_start=1
/product="early transforming protein E6"
/protein_id="AAA91672.1"
/protein_id="AAA91672.1"
/db_xref="G1:1098756"
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FAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRYYCYSLYGTTLEQQYMKPLCDLLIR
FAIRDLCIVYRDGNPYAVCDKCRFHNIRGRWTGRCCMSCCRSSRTERETQL"
                                                      Location/Qualifiers
/organism="Human papillomavirus"
/mol_type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Portland, Oregon,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'note="collected by cervical lavage at Kaiser Permanente,
Portland, Oregon, United States."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          db_xref="taxon:10566"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               organism="Human papillomavirus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mol type="genomic DNA"
isoTate="OR 6106"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Farmer, Los Alamos National
, T-10, Mail Stop K710, Los
                                                                                          Farmer, Los
T-10, Mail
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 10;
                                                                                                                                                                                                                                                                                             Stewart, A.C.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 456;
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                                                                                          Alamos
Stop K7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              early
                                                                                            K710, Los
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VRL 08-MAR-1996
                                                                                                                                                                                                                                                                                               Hildesheim, A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              transforming
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JOURNAL
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TITLE
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VERSION
KEYWORDS
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HPU34127/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
ORGANISM
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                                                                                                                                                                               gene
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                                                                                                                                             Sg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              456 bp DNA linear VRL 08-MAR-19:
Human papillomavirus type 16, isolate OR 6311, early transforming
protein E6 (E6) gene, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21;
                                                                                                                                                                                                                                                                                                                                           Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National
Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments United. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Viruses; dsDNA viruses, no RNA stage; Papillomaviridae; unclassified Papillomaviridae.
                                                                                                                                                                                                                                                                                                                                                                                                  Farmer, A.D.
Direct Submission
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      7494284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and Jenison, S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Yamada, T., Wheeler, C.M., Halpern, A.L., Stewart, A.C., Hildesheim, A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGGACACAGTGGCTTTTGAC 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (bases 1 to 456)
                                                                                                                                                                                                                                                                                                                                                                                                                                 (bases 1 to 456)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="collected by cervical lavage at Kaiser Permanente, Portland, Oregon, United States."
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FAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSVYGTTLEQQYNKPLCDLLIR
CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /translation="mfqDpqERPRKLPQLCTELQTTIHDIILECVYCKQQLLRREVYD
PAFRDLCIVYRDGNPYAVCDKCLKFYSKISEYRHYCYSLYGTTLEQQYNKPLCDLLIR
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/product="early transforming protein
/protein_id="AAA91674.1"
/db_xref="GI:1098760"
                                                                                                                                                                                              Portland, Oregon,
                                                                                                                                                                                                /noīe="collected by cervical lavage at Kaiser Permanente,
Portland, Oregon, United States."
                                                                                                                                                                                                                                                      /mol_type="genomic
/isoTate="OR 6311"
                                                                                                                                                                                                                                                                                                              1. .456
                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /Codon_start=1
/product="eart" transforming protein
/protein_id="AAA91673.1"
/db_xref="GI:1098758"
                                                                                                                           /gene="E6"
                                                                                                                                                            /gene="E6"
                                                                                                                                                                                                                                       db xref="taxon:10566"
                                                                                                                                                                                                                                                                                       organism="Human papillomavirus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            'gene="E6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /isolate="OR 6170"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'gene="E6"
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Pred. No. (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
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SOURCE
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HPU34128/c
               ACCESSION
VERSION
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HPU34129/c
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 KEYWORDS
                                                              DEFINITION
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Best Local S
Matches 21
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JOURNAL
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Parmer, Submission
Direct Submission
Submitted (16-AUG-1995) Andrew D. F
Laboratory, HIV Sequence Database,
Laboratory, WS 15-1-7-7 NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  456 bp DNA linear VRL 08-MAR-199 Human papillomavirus type 16, isolate OR 7145, early transforming protein E6 (E6) gene, complete cds.
               Human papillomavirus type
protein E6 (E6) gene, comp
U34129
U34129.1 GI:1098763
                                                                            HPU34129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human papillomavirus type 16 variant lineages populations characterized by nucleotide sequen E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    unclassified Papillomaviridae.

1 (bases 1 to 456)
Yamada,T., Wheeler,C.M., Halpern,A.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Farmer, A.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and Jenison, S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Viruses; dsDNA viruses,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human papillomavirus
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                                                                                                                                                               CAGGACACAGTGGCTTTTGAC 317
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                                                                                                                                                                                                                            Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      papillomavirus
                                                                                                                                                                                                                                                                                                                        /product="early transforming protein E6"
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/db.xref="G1:1098762"
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                                                                                                                                                                                                                                                                                                            CINCQKPLCPEEKQRHLDKKQRFHNIRGRWTGRCMSCCRSSRTRRETQL"
                                                                                                                                                                                                                                                                                                                                                                                                         gene="E6"
codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Portland, Oregon, United States
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db xrefe"taxon:10566"
/note="collected by cervical lavage at Kaiser Permanente,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      organism="Human papillomavirus"

/mol type="genomic DNA"

/isolate="OR 7145"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                        'gene="E6"
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Pred. No.
                                               complete cds.
                                                                                                                                                                                                                                           Score 21;
Pred. No.
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                                                             456 bp DNA linear VRL 08-MAR-1996
16, isolate OR 7574, early transforming
                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0.3;
                                                                                                                                                                                                                                             0.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Farmer, Los Alamos National, T-10, Mail Stop K710, Los
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 10;
                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                          10;
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                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                            Indels
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ORGANISM
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REFERENCE
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ORGANISM
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                                                                                                                                                                                                                                                                                                          protein E6 (E6) gene, U34130
                                                                                           Human papiliomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of tl B6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
                                                                                                                                                                                                                                                                                                                           Human papillomavirus type 16, İsola
protein B6 (B6) gene, complete cds.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (16-AUG-1995) Andrew D. Laboratory, HIV Sequence Database, Alamos, NM 87501, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments
J. Virol. 69 (12), 7743-7753 (1995)
Submitted (16-AUG-1995) Andrew D. Farmer, Los Alamos National Laboratory, HIV Sequence Database, T-10, Mail Stop K710, Los
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Human papillomavirus
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                                 Direct Submission
                                             Farmer, A.D
                                                                                                                                                               and Jenison, S.A.
                                                                                                                                                                           1 (bases 1 to 456)
Yamada, T., Wheeler, C.M., Halpern, A.L., Stewart, A.C., Hildesheim, A.
                                                                                                                                                                                                           Viruses; dsDNA viruses, no RNA stage; Papillomaviridae; unclassified Papillomaviridae.
                                                                                                                                                                                                                                                                                            U34130.1 GI:1098765
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Yamada,T., Wheeler,C.M., Halpern,A.L.,
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1. .456
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Portland, Oregon, United States."
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'isolate="OR 7574"
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| mol_type="genomic DNA"
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Yamada, T., Wheeler, C.M., Halpern, A.L., Stewart, A.C., Hildesheim, A. and Jenison, S.A.
and Jenison, S.A.
Human papillomavirus type 16 variant lineages in United States populations characterized by nucleotide sequence analysis of the E6, L2, and L1 coding segments
E6, L2, and L1 coding segments
L2, Virol. 69 (12), 7743-7753 (1995)
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456 bp DNA linear VRL 08-MAR-19:
Human papillomavirus type 16, isolate OR 7632, early transforming
protein E6 (E6) gene, complete cds.
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Human papillomavirus
Viruses; doBNA viruses, no RNA stage;
unclassified Papillomaviridae.
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Portland, Oregon, United States."
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ORIGIN

밁 Ś Query Match Best Local S Matches 21 337 CAGGACACAGTGGCTTTTGAC 317 21; 1 CAGGACACAGTGGCTTTTGAC 21 Similarity Conservative 100.0%; <u>,</u> Score 21; DB Pred. No. 0.3 0; Mismatches DB 10; 0 Length 456; 0, Gaps

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AR349184
AR349184.1
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1 (bases 1 to Carter, N.M.
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Carter, N.M.
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Patent: US 6583278-A 123 24-JUN-2003;
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AR349183
AR349183.1 GI:33749888
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Patent: US 6583278-A 122 24-JUN-2003;
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AR349182.1 GI:33749887
                          Nucleic acid probes complementary to human
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Similarity 100.0%; Pred. No. 0.0
32; Conservative 0; Mismatches
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US 6583278-A 124 24-JUN-2003;
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/mol_type="genomic"
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Location/Qualifiers
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/mol_type="genomic
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Sequence 9
AR085249
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Draetta,G.
Ubiquitin conjugating enzymes
Ubiquitin conjugatin co
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Sequence 16
AR080321
AR080321.1
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                                                                       l Similarity
32; Conserv
                                                                                                                                                                                                                                     1 (bases 1 to 476)
Draetta,G., Rolfe,M. and Eckstein,J.
Human ubiquitin conjugating enzyme
Patent: US 5981699-A 9 09-NOV-1999;
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Rolfe, M., Chiu, M. Isabel.,
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Location/Qualifiers
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/mol_type="unassigned
                                                                                                                                                                 /mol_type="unassigned DNA"
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/mol_type="genomic
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Pred. No. 0.004;
Mismatches
                                                                       Score 32; DB 2;
Pred. No. 0.0031;
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Pred. No. 0.0031;
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CS113238
CS113238.1
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Colloidal delivery system for biological Patent: WO 2005051431-A 15 09-JUN-2005; Milner, Anne Josephine (GB)
Location/Qualifiers
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Human papillomavirus - 18
Viruses; dsDNA viruses, no
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Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
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DNase I hypersensitive site;
sequence; inverted repeat.
Human papillomavirus
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X05568
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Data kindly reviewed (12.2.88) by Lazo
Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 528)
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                                                                                                                                                                                                                                     /organism="Human papillomavirus"
/mol type="genomic DNA"
/db xref="taxon:10566"
/cell line="Hela"
   /note="inverted repeat B'"
90. .97
                                                                                                                                                complement (34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Human papillomavirus
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                                                                                                                                                               /note="inverted repeat A"
                                                                                            /note="inverted
                                                                                                                                                                                                      note="enhancer-like sequence"
                                                       'note="enhancer-like sequence
                                                                                                                                 note="enhancer-like"
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Pred. No. 0.0031;
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ORF with DNaseI-hypersensitive
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enhancer-like

VRL 06-JUL-1989

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A98759
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KEYWORDS
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VERSION
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188814
                               unidentified unclassified sequences.
1 (bases 1 to 837)
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Boursnell, M.E., Inglis, S.C. and Munro, A.J.
Recombinant virus vectors encoding human p
Patent: US 5719054-A 11 17-FEB-1998;
Location/Qualifiers
                                                                      unidentified
                                                                                            A98759.1 GI:6781783
                                                                                                                                                                                                                                                                                                                                                                                                       Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
             VACCINE
                                                                                                                                                                                                                                                                                                                                                                                                                  Unknown
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                       Lombardo-Bencheikh, A. and Bruck, C.
                                                                                                                                                                                                                                                                                                                                                                                           Unclassified.
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32; Conservative
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                                                                                                                                                                                                        TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
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                                                                                                                                                                                                                                      Conservative
WO 9910375-A 20 04-MAR-1999;
                                                                                                                   20 from
                                                                                                                                                                                                                                                                                                                                                                                                                                                               11 from patent
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/note="enhancer-like sequence 11"
complement (470. .477)
/note="enhancer-like sequence 12"
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complement (453. .460)
note="enhancer-like sequence 10"
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435. .442
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139. .145
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="enhancer-like
164. .171
                                                                                                                                                                                                                                                                                              /mol_type="unassigned
                                                                                                                                                                                                                                                                                                          organism="unknown"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     note="enhancer-like sequence
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100.0%; Pred. No. 0.0
tive 0; Mismatches
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100.0%; Pred. No.
tive 0; Mismatch
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0.0029;
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                                                                                                                               linear
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                                                                                                                               PAT 26-JAN-2000
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SOURCE
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                                  RESULT 12
BD103169
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LAUDINE BRUCK, TERESA CABEZON SILVA, ANNE MARIE EVA FERNANDE PI DELLSSE, PI CATHERINE MARIE GHISLAINE GERARD, ANGELA LOMBARDO BENCHEIKH PC C12N15/09, A61K9/107, A61K39/12, A61K39/145, A61K39/39, A61P35/00, PC A61P37/00, C12N14/025,C07K19/00,C12N1/15,C12N1/19,C12N1/21,C12Nºe'' C12P21/02, PC C12N15/00,C12N1/15,C12N1/19,C12N1/21,C12Nºe'' PT SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             634 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patent: JP 2001513986-A 10 11-SEP-2001;
SMITHKLINE BEECHAM BIOLOGICALS SA
OS Homo sapiens (human)
PN JP 2001513986-A/10
PD 11-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BD080320.1 GI:22525
JP 2001513986-A/10.
Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOMBARDO BENCHEIKH ANGELA (BB); SMITHKLINE BEECHAM BIOLOG (BB)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bruck,C., Silva,T.C.,
Bencheikh,A.L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
                                                                                                   TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
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                                                                                   TTATTAATAAGGTGCCTGCGGTGCCAGAAACC
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                                                                                                                                                  100.0%;
ilarity 100.0%;
Conservative 0
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                                                                                                                                                                                                                                  /organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                       /organism='Homo sapiens
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="unidentified"
/mol_type="unassigned DNA"
/db_xref="taxon:32644"
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Pred. No. 0.0029
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 PAT 27-AUG-2002
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AR183581
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AUTHORS
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FEATURES
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KEYWORDS
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ORGANISM
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Best Local
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py JP 2001527091-A/10
pD 25-DBC-2001
pF 18-DBC-1998 JP 2000526542
pF 24-DBC-1998 JP 2000526542
pF 24-DBC-1997 GB 9727262.9
pI WILFRIED L J DALEMANS, CATHERINE MARIE GHISLAINE GERARD PC C07K14/025, A61K39/00, A61K39/12, A61K39/385, A61P35/00, C07K19/00, PC C12N15/09
pC C12N15/09
pC C12N15/00
pC C12N15/00
pC C12N15/00
pC C12N15/00
pC Strandedness: Single;
pC Topology: Linear;
pC Vaccine Location/Qualifiers
pH Key 1. 837
pT source //organism='Unidentified'.
634
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                                                       32;
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Bruck,C., Silva,T.Cabezon., Fernande Delisse,A.-M.Eva.,
Gerard,C.Marie. and Lombardo-Bencheikh,A.
Recombinant papillomavirus vaccine and method for produc
                                                                                                                                                                                                                                                                                                                                              Sequence 20
AR183581
                                                                                                                                                                                                                                                                                   Unknown
                                                                                                                                                                 Patent: US 6342224-A 20 29-JAN-2002;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                    Unknown.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             unclassified sequences.
1 (bases 1 to 837)
Dalemans, W.L.J. and Gerard, C.M.G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Patent: JP 2001527091-A 10 25-DEC-2001;
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                                                                                                                                                                                                                                                                      Unclassified.
                                                                   Similarity
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                          TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 665
                                                     Conservative
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RESULT 14

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E6 gene; E6 protein; E7 gene; E
Human papillomavirus type 18
M Human papillomavirus type 18
Viruses; dsDNA viruses, no RNA
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                                                                                                                                                                                                                                                                                        Submitted (02-DEC-1998) V.P. Veiko, Ins
Selection of Industrial Microorganisms,
Moscow 113545, RUSSIA
                                                                                                                                                                                                                                                                                                                                                                     Cloning of B6 and E7 Genes of Human Papilloma Virus Type 18 and Transformation Potential of E7 Gene and its Mutants Virus Genes 182, 139-149 (1999)
2 (bases 1 to 843)
                                                                                                                                                                                                                                                                                                                                                                                                                                    Laassri, M., Gul'ko, L., Vinokurova, S., Kisseljova, N., Veiko, V. and Kisseljev, F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patent: WO 9933868-A 20 08-JUL-1999;
DALEMANS WILFRIED L J (BE); SMITHKLINE BEECHAM
CATHERINE MARIE GHISLAI (BE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human papillomavirus
Viruses; dsDNA viruses, no RNA
unclassified Papillomaviridae.
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                                                                                                                                                               40. .516
                                                                                                                                                                           gene="E6"
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Human papillomavirus
Human papillomavirus
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Schneider-Gadicke,A. and Schwarz,E.
Different human cervical carcinoma cell lines show similar transcription patterns of human papillomavirus type 18 early genes EMBO J. 5 (9), 2285-2292 (1986)
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human cervical carcinoma HeLa, C4-1 and SW756 cell lines.
Location/Qualifiers
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525. .842
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Amplified spliced mRNA for HPV 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Oltersdorf,T., Roewekamp,W., Schneider-Gaedicke,A., Seedorf,K., Duerst,M. and Schwarz,E.

Expression products of human papilloma virus type 18, antibodies specific for these proteins, and disgnostic reagents containing these antibodies or the corresponding DNA Patent: EP 0256321-A 5 24-FEB-1988;

EEHRINGWERKE Aktiengesellschaft Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A06328.1
El gene;
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Human papillomavirus type 18
Viruses, dsDNA viruses, no RNA stage; Papillomaviridae;
Alphapapillomavirus.
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/mol type="unassigned RNA"
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100. .576
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/db_xref="G0A:P06463"
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/translation="MARFEDPTRRPYKLPDLCTELST"
/translation="MARFEDPTRRPKL"
/translat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="goa:p06788"
/db_xref="UniprotkB/Swiss-Prot:p06788"
/translation="MHGPKATLODIYLHLEPQNEIPVDLLCHEQLSDSREENDEIDGV
NHQHLPARRAEPQRHTMLCMCCKCBARIKLVVESSADDLRAFQQLFLNTLSFVCPWCA
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/db_xref="GI:413675"
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/product="E1"
/protein_id="CAA00544.1"
/db_xref="GI:413676"
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/product="E6"
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Sequence 22 from Patent
A98761
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                                                                        JP 2001513986-A/11.
Homo sapiens (human)
Homo sapiens
                                                                                                          Vaccine.
BD080321
BD080321.1 GI:22625924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cerutti,P., Whitcomb,J., Zijlstra,J. and Detection of human papillomavirus DNA in Patent: EP 0373152-A 7 20-JUN-1990; BEHRINGWERKE Aktiengesellschaft
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             synthetic construct other sequences, artificial sequences.

1 (bases 1 to 1000)
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A07621.1 GI:413119
Hominidae; Homo.

1 (bases 1 to 1152)

Bruck, C., Silva, T.C.,

Bencheikh, A.L.
                                                                                                                                                 BD080321
                                                                                                                                                                                                                                                                                                                                                                                                                         unclassified sequences.
1 (bases 1 to 1152)
Lombardo-Bencheikh, A. and Bruck, C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A98761.1 GI:6781784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      synthetic construct
                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
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LOMBARDO BENCHEIKH ANGELA (BE); SMITHKLINE
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                                                                                                                                                                                                                                                                                                                          /organism="unidentified"
/mol_type="unassigned DNA"
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/mol_type="unassigned RNA"
/db_xref="taxon:32630"
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100.0%; Pred. No. 0.0028;
tive 0; Mismatches 0
                                                Chordata; Craniata; Vertebrata; Euteleostomi; Euarchontoglires; Primates; Catarrhini;
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           Delisse, A.M.E.
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Pred. No. 0.0028;
; Mismatches 0;
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              Gerard, C.M.G.
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BD103170
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PC C07K14
C12P21/02,
PC C12N15
CC Vaccir
FH Key
FT Source
FT
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BD103170
                                                                                                                                                                                                                                                                                                                                                    unidentified
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JP 2001527091-A/11.
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                                                                                                                                                                                                                                                                                                                                       unclassified sequences.
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y Match 100.0%; Score 32; DB 2;
Local Similarity 100.0%; Pred. No. 0.0028;
hes 32; Conservative 0; Mismatches 0
                                                                                                         PAL PATENT: JP 2001527091-A 11 25-DEC-2001;

SMITHKLINE BEECHAM BIOLOGICALS SA

OS Unidentified
PN JP 2001527091-A/11
PD 25-DEC-2001
PF 18-DEC-1998 JP 2000526542
PF 18-DEC-1997 GB 9727262.9
PI WILFRIED L J DALEMANS, CATHERINE MARIE GHISLAINE GERARD PC C07K14/025, A61K39/00, A61K39/12, A61K39/385, A61P35/00, C07K19/00, PC C12N15/09
CC C12N15/09
CC C12N15/09
CC Strandedness: Single;
CC Topology: Linear;
CC Vaccine
FH Key
1. 1152
FT source
1. 1152
FT source
1. 1152
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SMITHKLINE BEECHAM BIOLOGICALS SA
OS Homo sapiens (human)
PN JP 2001513986-A/11
PD 11-SEP-2001
PF 17-AUG-1998 JP 2000507701
PR 22-AUG-1997 GB 9717953.5
PI CLAUDINE BRUCK, TERESA CABEZON SILVA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 (bases 1 to 1152)
Dalemans, W.L.J. and Gerard, C.M.G.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism='Homo sapiens (human)'.
Location/Qualifiers
1. .1152
                                                                                        /organism='Unidentified'.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
/organism="unidentified"
/mol_type="genomic DNA"
/db_xref="taxon:32644"
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1. .1152
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SOURCE
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VERSION
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AX020945
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FEATURES
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Best Local S
Matches 32
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Matches 32; Conserv
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Sequence
AX020945
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Sequence
AR183582
                                                                                                                                                                                                                                                Human papillomavirus
Human papillomavirus
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
                                                                                                                                                                         Patent: WO 9933868-A 22 08-JUL-1999;
DALEMANS WILFRIED L J (BE); SMITHKLINE BEECHAM BIOLOG (BE); GERARD CATHERINE MARIE GHISLAI (BE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 (bases 1 to 1152)
Bruck, C., Silva, T. Cabezon., Fernande Delisse, A.-M. Eva., Ghislaine Gerard, C. Marie. and Lombardo-Bencheikh, A.
Recombinant papillomavirus vaccine and method for production and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unknown.
                                                                                                                                                                                                                           Dalemans, W.L. and Gerard, C.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unknown.
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                                                                                                                                                                                                                Vaccine
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Similarity 100.0%;
32; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unclassified.
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           TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 665
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                                                                                                         /organism="Human papillomavirus"
/mol_type="unassigned DNA"
/db_xref="taxon:10566"
                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="unknown"
/mol_type="unassigned
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                                            100.0%; Score 32; DB 2;
100.0%; Pred. No. 0.0028;
tive 0; Mismatches 0
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Pred. No. 0.0
); Mismatches
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BD015779
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Method
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Query Match
Best Local Similarity
                                                                                                                                                              unclassified sequences.

I (bases 1 to 1188)

I (bases 1 to 1188)

I James, M. B. and Bryan, N.

Rethod for detecting human carcinogenic papilloma virus HPV18

Patent: JP 2000189200-A 1 11-JUL-2000;

BIOSEARCH INTERNATIONAL PITI LTD

OS Papilloma virus
PN JP 2000189200-A/1

PD 11-JUL-2000

PD 11-JUL-2000

PD 11-JUL-2000

PD 21-FEB-2000 JP 2000043673

PR 26-FEB-1987 AU PI0559

PI MAURICE BRYAN JAMES, NIGHTINGALE BRYAN
PI KEY

FT SOURCE

FH KEY

1. 1188

FT SOURCE

// Criganisms Papilloma virus .
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PN UP 2001197894-A/1
PD 24-JUL-2001
PD 24-JUL-2000 JP 2000379281
PP 13-DEC-2000 JP 2000379281
PF 13-DEC-2000 JP 2000379281
PR 26-FEB-1987 AU PI0559
PR 26
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1 (bases 1 to 1188)

1 (bases 1 to 1188)

Morris, B.J. and Nightingale, B.

Method for detecting human carcinogenic papilloma virus

Patent: JP 2001197894-A 1 24-JUL-2001;

BIOSEARCH INTERNATIONAL PTY LTD
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JP 2001197894-A/
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Method for detecting human carcinogenic papilloma virus
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JP 2000189200-A/1.
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llarity 100.0%;
Conservative 0,
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                                                                                                                /organism='Papilloma virus'.
Location/Qualifiers
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/organism="unidentified"
/mol_type="genomic DNA"
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/db_xref="taxon:151340"
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/mol_type="genomic DNA"
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Pred. No. 0.0028;
Mismatches 0
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an carcinogenic papilloma
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virus HPV18.
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                                                      A06324.1 GI:413669
El gene; E6 gene; E7 gene.
Human papillomavirus type 18
Human papillomavirus type 18
Viruses; dsDNA viruses, no RNA
                                                                                                                                                                                                                                                                 32;
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Human papillomavirus
Viruses; dsDNA viruses, no RNA
unclassified Papillomaviridae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          32;
             Oltersdorf, T., Roewekamp, W., Duerst, M. and Schwarz, E.
                                                                                                                          Hpv18 genes for A06324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The expression of human papillomavirus type 18 E6 bacteria and the production of anti-E6 antibodies J. Gen. Virol. 67 (Pt 9), 1909-1916 (1986)
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Expression products of human
                                   Alphapapillomavirus.
1 (bases 1 to 1750)
                                                                                                                                                  A06324
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Matlashewski,G., Banks,L., Wu-Liao,J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       transforming capacity; unidentified reading
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                                                                                                                                                                                                                                                                             Similarity
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                                                                                                                                                                                                               TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 641
                                                                                                                                                                                                                               TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 641
                                                                                                                                                                                                                                                                Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             papilloma virus
                                                                                                                                                                                                                                                                                                                                        /db_xref="UniProtKB/Swiss-Prot:P06463"
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FEFAFKDLFVVYRDSIPHAACHKCIDFYSRIRELRHYSDSVYGDTLEKLTNTGLYNLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                            !RCLRCQKPLNPAEKLRHLNEKRRFHNIAGHYRGQCHSCCNRARQERLQRRRETQV"
                                                                                                                                                                                                                                                                                                                                                                                           /protein_id="CAA27879.1"
/db_xref="GI:60996"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Human papillomavirus"
|mol_type="genomic DNA"
|strain="type 18"
|db_xref="taxon:10566"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      db_xref="taxon:32644"
                                                                                                                                                                                                                                                                                                                                                                               db_xref="GOA:P06463"
                                                                                                                                                                                                                                                                                                                                                                                                                     codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                 note="unnamed protein product; E6
                                                                                                                                                                                                                                                                                                                                                                                                                                                          tissue
                                                                                                                                                                                                                                                                            100.0%;
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                                                                                                                                     E6, E7,
                                                                                                                                                                                                                                                                                                                                                                                                                                                          _type="cervical carcinoma"
                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
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(HPV-18) E6
                                                                                                                                                                                                                                                                            Score
Pred.
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Pred. No. 0.0028;
                                                                                                                                     1750
and E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                no RNA stage;
                                                                                                                                                                                                                                                              red. No. 0.0028;
Mismatches C
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do
                                                                                                                                                                                                                                                                            NO.
papilloma
                       Schneider-Gaedicke, A., Seedorf, K.,
                                                           stage;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORF.
                                                                                                                                                                                                                                                                                        DB 10;
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                                                                                                                                                 DNA
                                                           Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Papillomaviridae;
virus type 18, antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Spence, P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ..
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                                                                                                                                                                                                                                                                                     Length 1188;
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                                                                                                                                                 linear
                                                                                                                                                                                                                                                                Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        frame
                                                                                                                                                                                                                                                                                                                                                                                                                                 (aa 1-158)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein in
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                                                                                                                                                 23-JUL-1993
                                                                                                                                                                                                                                                                Gaps
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                                                                      REFERENCE
AUTHORS
TITLE
           COMMENT
FEATURES
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VERSION
KEYWORDS
                                                                                                                                  SOURCE
ORGANISM
                                                                                                                                                                                                                                     RESULT 28
PAHPV18E
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                                                                                                                                                                                                               DEFINITION
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                                                                                                                                                                                                                           Pocus
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                                   JOURNAL
PUBMED
                                                                                                                                                                                                                                                                                                                                           Matches
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                                                                                                                                                                                                                                                                                                                                                       Local
                      Data
                                                                                                                                                                                                                                                                                                                                          32;
                                                                                                                          Viruses;
                                                                                                                                                                                       X04773
                                                                                                                                                                                                                           PAHPV18E
                                                                                                                                                                                                                                                                                                                                                       Similarity
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418 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 449
                                                                                                                                                                                                                                                                                                                                                                    Human papilloma virus proteins E6, E7, E1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                   1 (bases 1 to 1750)
Seedorf, T., Oltersdorf, T., Krammer, G. and Identification of early proteins of the h type 16 (HPV 16) and type 18 (HPV 18) in EMBO J. 6 (1), 139-144 (1987)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            these antibodies or the corresponding Patent: EP 0256321-A 1 24-FEB-1988; BEHRINGWERKE Aktiengesellschaft
                                                                                                                                                                                                                                               Human papillomavirus
Human papillomavirus
                                                                                                                                                                                                                                                                                                     unidentified reading
                                                                                                                                                                                                                                                                                                                             X04773.1 GI:60876
                                                                                                                                                                                                      Viruses; dsDNA viruses, no RNA stage; unclassified Papillomaviridae.
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kindly reviewed (31-OCT-1987)
Location/Qualifiers
1. .1750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /db_xref="UniProtkb/Trembl: Q84181"
/tramblation="WadfredTidgeGTGCNGWFYVQAIVDKKTGDVISDDEDENATDTG
/tramblation="WadfredTidgeGTGCNGWFYVQAIVDKKTGDVISDDEDENATDTG
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LEVDTELSFRLQEISLNSGQKKAKRRLFTISDSGYGCSEVEATQIQVTTNGEHGGNVC
SGGSTEAIDNGGTEGNNSSVDGTSDNSNIENVNFQCTIAQLKDLKVNNKQGANLAVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /protein_id="CAA00540.1"
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/db_xref="GO:916788"
/db_xref="UnitProtKB/Swiss-Prot:P06788"
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/translation="MHGPKATLQDIVLHLEPQNEIPVDLLCHEQLSDSBEENDEIDGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /db_xref="GOA:P06463"
/db_xref="UniProtKB/Swiss-Prot:P06463"
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/translation="MARFEDPTRRPYKLPDLCTELNTSLQDIBITCVYCKTVLELTEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KDTYGLSFTDLVRNFKSDKTTCTDWVTAIFGVNPTIAEGFKTLIQPFILYAHIQCL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /protein_id="CAA00541.1"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IRCLRCQKPLNPAEKLRHLNEKRRFHNIAGHYRGQCHSCCNRARQERLQRRRETQV"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 product="E1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein_id="CAA00539.1"
/db_xref="GI:413670"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     codon_start=1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 32; DB 2; 100.0%; Pred. No. 0.0027;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                     frame.
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type 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                 y bp
18 (HPV
                                            by SEEDORF
                                                                                                                                                                                                                                                                                                                                                                                               18)
                                                                                                              and Rowekamp, W.
he human papilloma viruses
in cervical carcinoma cel
                                                                                                                                                                                                                                Papillomaviridae;
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KEYWORDS
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ORGANISM
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Best Local S
Matches 32
                                                                                                       TITLE
                                                                                                                                          AUTHORS
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                                                                                                                                                                                                                                                                                                                                                                             29
                                                                                                                                                                                                                                                                                                                                                                                                                                418
                                                                                                                                                  protein E1; protein E6; protein E7.
Human papillomavirus type 18
Human papillomavirus type 18
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
Alphapapillomavirus.
1 (bases 1 to 3135)
                                                                                                                                                                                                                                                                                                 HUMHELB 3135 bp mR)
Human papillomavirus type 18 proteins
cds, and protein E1, 5' end.
                                                                                   Inagaki,Y., Tsunokawa,Y., Takebe,N., Nawa,H., Nakanishi,S.,
Terada,M. and Sugimura,T.
Nucleotide sequences of cDNAs for human papillomavirus type
transcripts in HeLa cells
                                   The
                                                                                                                                                                                                                                                                   M20325.1 GI:183936
                                                     2833614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                               TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                  Virol.
            integrated viral sequence starts at position 1. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%;
llarity 100.0%;
Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /codon_start=1
/protein_id="CAA28468.1"
/protein_id="CAA28468.1"
/db_xref="G1:60879"
/db_xref="G0A:Q84181"
/db_xref="UniProtKB/TrEMBL:Q84181"
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LEVDTELSPRLGEISLASGQKKAKRRLFTISDSGYGCSEVEATQIQVTTNGEHGGNVC
SGGSTEAIDNGGTEGNNSSVDGTSDNSNIENVNPQCTIAQLKDLLKVNNKQGAMLAVF
KDTYGLSFTDLVRNFKSDKTTCTDMVTAIFGVNPTIABGFKTLIQPFILYAHIQCL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /db_xref="UniProtKB/Swiss-Prot:P06788"
/translation="MHGPKATLQDIVLHLEPQNEIPVDLLCHEQLSDSEEENDEIDGV
NHQHLPARRAEPQRHTMLCMCCKCEARIELVVESSADDLRAFQQLFLNTLSFVCPWCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /db_xref="goa:p06463"
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FEFAPKDLFVVYRDSIPHAACHKCIDFYSRIRELRHYSDSVYGDTLEKLTNTGLYNLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /proteIn_id="CAA28467.1"
/db_xref="GI:60878"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="unnamed protein product; B1 protein (AA 1-275)
(1750 is 2nd base in codon)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   note="unnamed protein product; E7 protein (AA 1-105)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /protein_id="CAA28466.1"
/db_xref="GI:60877"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /codon_start=1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref="taxon:10566"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Human papillomavirus"
/mol_type="genomic DNA"
                                                                    62 (5), 1640-1646 (1988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | IRCLRCQKPLNPAEKLRHLNEKRRFHNI AGHYRGQCHSCCNRARQERLQRRRETQV"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 32;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 10;
0.0027;
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8
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                                                                                                                                                                                                                                                                                                                     linear Vi
and E7 mRNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1750;
                                                                                                                                                                                                                                                                                                                                         VRL 06-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                     complete
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                                                                                                         18
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              REFERENCE
AUTHORS
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AUTHORS
TITLE
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HPU89349
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KEYWORDS
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ACCESSION
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                                                  JOURNAL
PUBMED
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                32;
                Cole,
Nucleotide
                                                                                                                                                                                                                                                U89349.1
                                                     3023067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                S.T.
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Human papillomavirus type 18 variant, U89349
                                                                                                      Alphapapillomavirus.

1 (bases 2216 to 2355; 2538 to 3127)
Schneider-Gadicke, A. and Schwarz, E.
Different human cervical carcinoma cell lines s
transcription patterns of human papillomavirus
EMBO J. 5 (9), 2285-2292 (1986)
                                                                                                                                                                                                                                                                   Human papillomavirus type 18
Human papillomavirus type 18
Viruses; dsNNA viruses, no RNA stage;
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/codon start=1
/prodein start=1
/prodein id="protein B1"
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/translation="madpegtdgegtgegrynubqvulvtkrkreaggskensplosr
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SDMYDEIDTGCTEGARSSVDGTSDNSNIENVPQCTIAQLKDLKVNNKQGAMLAVF
KGTYGLSFTDLVRNFKSDKTTCTDMVTA1FGVNFTIABGFKTLLQFFILYAHIQCLDC
KMGVLILALLRYKCGKSRLTVAKGLSTLLHVPETCMLIQPFKLRSSVAALYMYRTGIS
NISEYMGDTPEWIQRLTIIQHGIDDSNFDLSEMYQMAFDNELTDBSDMAFEYALLADS
NSNAAAFLKSNCQAKYLKDCATMCKHYRRAQKRQMMMSQMIRFRCSKIDEGGDWRPIV
QFLRYQQIEFITFLGALKSFIKGTPKKNCLVFCGPANTGKSYFGMSFIHFIQGAVISF
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/product="protein_E7"
/protein_id="AAA99515.1"
/protein_id="AAA99515.1"
/db_xref="GI:306837"
/translation="MMGPKATLQDIVLHLEPQNEIPVDLLCHEQLSDSEEENDEIDGV
/translation="MMGPKATLQDIVLHLEPQNEIPVDLLCHEQLSDSEEENDEIDGV
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/mol_type="mRNA"
/db_xref="taxon:333761"
/map="16 bp upstream of BamHI site"
/clone="125"
                                                                                                                                                                                                                                                                                                                                                                                        GI:2052453
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fbfafkdlfvvyrdsiphaachkcidfysrirblrhysdsvygdtlbkltntglynll
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/protein_id="AAA99514.1"
/db_xref="GI:306836"
                            and Danos, O.
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'db_xref="taxon:9606"
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and comparative analysis
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Pred. No. 0.0025;
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Submitted (10-FEB-1997) VEHB,
Prevention, 1600 Clifton Road
Location/Qualifiers
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Bernard, H.-U.

Evolution of human papillomavirus type 18: an ancient phylogenet root in Africa and intratype diversity reflect coevolution with
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Nucleotide sequences and further characterization
papillomavirus DNA present in the Caski, SiHa and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4 (bases 1750 to 2070)
Ong,C.K., Chan,S.Y., Campo,M.S., Fujinaga,K., Mavromara-Nazos,P.,
Labropoulou,V., Pfister,H., Tay,S.K., ter Meulen,J., Villa,L.L. a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Terada,M. and Sugimura,T.
Nucleotide sequences of cDNAs for human papillomavirus type 18
transcripts in HeLa cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   papillomavirus type 18 genome. Phylogeny of papillomaviruses repeated structure of the E6 and E7 gene products J. Mol. Biol. 193 (4), 599-608 (1987)
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J. Virol. 67 (11), 6424-6431 (1993)
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Number X05015"
/citation=[2]
/replace="c"
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/replace="t"
2291
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Number X55015"
/citation=[2]
/replace="c"
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/replace="c"
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/strain="type 18 variant"
/db_xref="taxon:333761"
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/mol_type="genomic DNA"
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               405
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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Sequence 2 from Patent WO2005033333.
CS073239
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32; Conserv
                                                                                                                                                                                             Chau, M.F., Bisgaard-Franzen, K., Lin, J., Rasmus
Lusk, J., Lindberg, M. and Yoast, S.
Methods and compositions for the diagnosis of
Patent: WO 200503333-A 2 14-APR-2005;
DakoCytomation Denmark A/S (DK)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                             CS073239.1 GI:63090301
                                                                                        Similarity
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                                 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 436
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M26798"
                                                                                                                                                /organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"
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Pred. No. 0.0023;
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Pred. No. 0.0024;
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                                                                                                      Length 7857;
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Human papillomavirus type 18
Viruses, dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chen,
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AY262282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (25-MAR-2003) Microbiology and Immunology, Albert
Einstein College of Medicine of Yeshiva University, 1300 Mo:
Park Ave., Ullmann 515, Bronx, NY 10461, USA
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 (bases 1 to 7857)
Burk, R.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1987)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Papillomaviruses
J. Virol. 79 (24), 15503-15510 (2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Narechania, A., Chen, Z., De
Phylogenetic Incongruence
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n, Z. and Burk, R.D.
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7), with E6, E7, E1,
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ce among Oncogenic Genital Alpha Human
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JOURNAL
PUBMED
COMMENT
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AUTHORS
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ORGANISM
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KEYWORDS
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Human papillomavirus type 18
Human papillomavirus type 18
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    organism="Human papillomavirus type 18"
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                                                                                                                                    'gene="E1"
                                                                                                                                                                                                                                                                                                                             'gene="E7"
                                                                                                                                                                                                                                                                                                                                                              gene="E7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         db_xref="GOA: P06463"
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xref="InterPro: IPR001177"
                                                                                                                                                                                                                                       xref="GOA: P06788"
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, L1 & L2 genes.
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HPV45E6E7
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Human papillomavirus type 45
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                 Submitted (09-MAY-1997) M. Favre, In Rue du Dr Roux, 75015-Paris, FRANCE
                                                                                                                                                                                                                                                                                                                                                                                                     Saxtre-Garau, X., Favre, M., Couturier, J. and Orth, G. Distinct patterns of alteration of myc genes associated integration of HPV16 or HPV45 DNA in two genital tumors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Y13218.1 GI:2113839
E6 gene; E7 gene.
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TVVDTTPSTNLTICASTGSPVPGQYDATKFKQYSRHVESTDLQFIRGLTTITLTADVM
SYIHSNNSSILEDWNFGVPPPTTSLUDTYRFYQSVAITCQKDAAPAENKDPYDKLKF
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/gene="Ll"
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                                                                                                                                                                                                                                                                                 Location/Qualifiers
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                                                                                                                                                                                         db_xref="taxon:10593"
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and E7 genes.
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VERSION
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1 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Original source text: Human papillomavirus Draft entry and computer-readable sequence by J.B.Kaplan, 27-AUG-1990.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 (bases 1 to 1843)
Kaplan, J.B. and Burk, R.D.
Evolution of the papillomaviruses
Unpublished (1990)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus
Human papillomavirus
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M38198
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587. .907
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                                                                                                                                                                                                                                                                                                                                                                                                          River, NY 10965.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        El gene; E2 gene; E4 gene; E6 gene; E7 gene; early protegene; L2 gene; late protein.

Human papillomavirus type 45

Human papillomavirus type 45

Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
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X74479
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
Submitted (06-AUG-1993)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           [ (bases 1 to 7858) Delius, H. and Hofmann, B. Primer-directed sequencing of human papillomavirus types Curr. Top. Microbiol. Immunol. 186, 13-31 (1994)
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                                                                                                                                                                                                         /Godon_start=1
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YQFAFKDLCIVYRDCIAYAACHKCIDFYSRIRELRYYSNSVYGETLEKITNTELYNLL
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                                                                                                                                                                                                                                                                                            'gene="E7"
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                                                                                       gene="E1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene="E6"
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                                                                                                                                                                                                                                                                                                                                                                                                                                               xref="GOA:P21735"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      xref="taxon:10593"
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96.9%;
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y ATV, Im Neu
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JOURNAL
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AUTHORS
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ORGANISM
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Matches 31; Conserv
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HPV45 E7 and
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El fusion protein; Eprotein; E7 protein; HPV45 E1
gene; HPV45 E7 gene; HPV45 L1 gene; HPV45 L2 gene; l
protein; N-myc gene; N-myc protein.
Homo sapiens (human)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (08-JUN-1999) Favre M.G., Virology, Pasteur Institute, 25, rue du Docteur Roux, 75015 Paris, FRANCE Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         genital tumours
J. Gen. Virol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sastre-Garau, X., Favre, M., Couturier, J. and Orth, G. Distinct patterns of alteration of myc genes associated with integration of human papillomavirus type 16 oe type 45 in two integration of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type 16 oe type 45 in two integrations of human papillomavirus type
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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<1819. 242
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VQSVAVTCQKDTTPPEKQDPYDKLKFWTVDLKEKFSSDLDQYPLGRKFLVQAGLRRRP
TIGPRKRPAASTSTASRPAKRVRIRSKK"
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                                                                                                             /number=3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           organism="Homo sapiens"
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Pred. No. 0.
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HPV45 L2, HPV45 L1, HPV45 E6,
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l1 protein; I
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/db_xref="GI:5042226"
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3707. .5317
/gene="HPV45 L1"
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6128. .6604
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                                                                                                                                                                                                                                                                             6940. .7344
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/gene="HPV45 E7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6613.
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                                                                                                                                                                                                                                                                                                              /gene="HPV45 E1"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 6933
                                                                                                                                                                                             protein"
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lmrlrhanllnlggggcsepvmchctpamate"
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RESULT 39
BC056907
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KEYWORDS
   REFERENCE
                                                                                                                        SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
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                                                                                                                                                                                                                                                    Homo sapiens cDNA clone
BC056907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Original
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                                                                                                                                                                                                                                                                                                                           BC056907
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Zheng, Y.-M., Su, P., Wang, J.X., Basu, A., Bhat, K.S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       M85235
                              Hominidae; Homo.
                                                        Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
                                                                                             Eukaryota;
                                                                                                                        Homo sapiens
                                                                                                                                                   Homo sapiens (human)
                                                                                                                                                                                                                      BC056907.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Avadhani, N.G.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TIGITAATAAGGIGCCTGCGGIGCCAGAAACC 6459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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Rufaelkykelekkfahktvrkarekliyekahtyhketromytetermarmarkagu
fyvpabeklafyuiriegingysekvekvlqllekletygievetlikasinmleivet
yiamgypulksvueliykrgygkinkkrialtdusliarslgkegiicmedliheiyt
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="ribosomal protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene="ribosomal protein"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              organism="Mus musculus"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     strain="Swiss"
                                                                                          Metazoa;
                                                                                                                                                                                                                      GI:34784913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        76.9%;
87.1%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             type="mRNA"
                                                                                             Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 24.6; D
Pred. No. 6.7;
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Pred. No. 0.012;
                                                                                                                                                                                                                                                                                  1225 bp mRNA linea:
MGC:65154 IMAGE:5122136,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Swiss) cDNA to mRNA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <u>,,</u>
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                              misc_feature
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Klausner, R.D., Collins, F.S., Wagner, L., Shemmen, C.M., Schuler, G.D.,
Altschul, S.F., Zeeberg, B., Buetow, K.H., Schaefer, C.F., Bhat, N.K.,
Hopkins, R.F., Jordan, H., Moore, T., Max, S.I., Wang, J., Hsteh, F.,
Diatchenko, L., Marusina, K., Farmer, A.A., Rubin, G.M., Hong, L.,
Stapleton, M., Soares, M.B., Bonaldo, M.F., Casavant, T.L.,
Scheetz, T.B., Brownstein, M.J., Usdin, T.B., Toshiyuki, S.,
Carninci, P., Prange, C., Raha, S.S., Loquellano, N.A., Peters, G.J.,
Abramson, R.D., Mullahy, S.J., Bosak, S.A., McEwan, P.J.,
McKernan, K.J., Malek, J.A., Gunaratne, P.H., Richards, S.,
Worley, K.C., Hale, S., Garcia, A.M., Gay, L.J., Hulyk, S.W.,
Villalon, D.K., Muzny, D.M., Sodergren, B.J., Lu, X., Glbbs, R.A.,
Fahey, J., Helton, E., Ketteman, M., Madan, A., Rodrigues, S.,
Sanchez, A., Whiting, M., Wadan, A., Young, A.C., Shevchenko, Y.,
Boutfard, G.G., Blakesley, R.W., Touchman, J.W., Green, B.D.,
Butterfield, Y.S., Kzzywinski, M.I., Skalska, U., Smailus, D.B.,
Schmerch, A., Schein, J.E., Jones, S.J. and Marra, M.A.
Generation and initial analysis of more than 15,000 full-length
human and monise cDNA secuences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Series: IRAK Plate: 119 Row: c Column: 8
This clone was selected for full length sequencing because it passed the following selection criteria: Hexamer frequency ORF analysis, Similarity but not identity to protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Steven Jones, Jennifer Asano, Ian Bosdet, Yaron Butterfield, Susanna Chan, Readman Chiu, Chris Fjell, Erin Garland, Ran Guin, Letticia Hsiao, Martin Krzywinski, Reta Kutsche, Oliver Lee, Soo Sen Lee, Victor Ling, Carrie Mathawson, Candice McLeavy, Steven Ness, Pawan Pandoh, Anna-Liisa Prabhu, Parvaneh Saeedi, Jacqueline Schein, Duane Smailus, Michael Smith, Lorraine Spence, Jeff Stott, Michael Thorne, Miranada Tsai, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Carrie Vanda State, Natasja van den Bosch, Jill Vardy, Natasja van den Bosch, Jill Vardy, Natasja van den 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cDNA Library Preparation: Life Technologies, CDNA Library Arrayed by: The I.M.A.G.E. Conso DNA Sequencing by: Genome Sequence Centre, BC Cancer Agency, Vancouver, BC, Canada info@bcgsc.bc.ca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NIH-MGC Project URL: http://mgc.nci.nih.gov
Contact: MGC help desk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (25-AUG-2003) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human and mouse cDNA sequences
Proc. Natl. Acad. Sci. U.S.A. 99 (26), 16899-16903 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      George Yang, Scott Zuyderduyn, Marco Marra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    through the I.M.A.G.B. Consortium/LLNL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/mol_type="mRNA"
note="E7; Region: E7 protein, Early protein'
                                                                                                                                                                                                                                                                                                                                                                                tissue_type="Cervix, carcinoma"
clone_lib="NIH_MGC_12"
                                                                                                                                                                                                                                                                                                                                                                                                                                             db_xref="taxon:9606"
clone="MGC:65154 IMAGE:5122136"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                       note="Vector:
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RESULT 41
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PUBMED
COMMENT
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HUMHELA
LOCUS
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ORGANISM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 (bases 1 to 1300)
Inagaki,Y., Tsunokawa,Y., Takebe,N., Nawa,H., Nakanishi,S., Terada,M. and Sugimura,T.
Nucleotide sequences of cDNAs for human papillomavirus type transcripts in HeLa cells
J. Virol. 62 (5), 1640-1646 (1988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human papillomavirus type 18
Human papillomavirus type 18
Viruses; dsNAA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HUMHELA
1300 bp mRN
Human papillomavirus type 18 proteins
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                                                                                                                 Similarity 89.7
26; Conservative
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                                                         TTACAGAGGTGCCTGCGGTGCCAGAAACC 231
                                                                          TTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTACAGAGGTGCCTGCGGTGCCAGAAACC 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     integrated viral sequence starts at Location/Qualifiers
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                                                                                                                                                                                       /codon_start=1
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SQQ"
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                                                                                                                                                                                                                                                                                                           PAVPETVESSRKT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /map="841 bp upstream
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Human papillomavirus
/mol_type="mRNA"
/db_xref="taxon:333761"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GI:183933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /db_xref="CDD:pfam00527"
                                                                                                                                                                                                                                                                                                                        translation="MARFEDPTRRPYKLPDLCTELNTSLQDIEITCVYCKTVLELTEV"
                                                                                                                                                                                                                                                                                                                                                                                                                                                        25. .1300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cell_line="HeLa; SKG-[I,II]"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'clone="20"
                                                                                                                               75.6%;
89.7%;
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89.7%;
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                                                                                                                 Score 24.2; D
Pred. No. 9.8;
0; Mismatches
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Pred. No. 9.
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E6 and E7 mRNA,
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AR084343
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AR084344
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Sequence
AR084344
1 (bases 1 to 1110)
Orth, G., Beaudenon, S. and Longuet, M.
Genital human papillomavirus type 68a
potentially oncogenic HPV-39
Patent: US 5981173-A 5 09-NOV-1999;
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AR084343
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Genital human papillomavirus type 68a
potentially oncogenic HPV-39
Patent: US 5981173-A 12 09-NOV-1999;
Location/Qualifiers
1. .1095
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AR084350
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/mol_type="unassigned DNA"
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                                                                                                                                                                                                                                                                                                                                                                                                                              27;
                                                     Direct Submission
Submitted (03-JUL-1992) M. Longuet, Institut Pasteur, Laboratoire
des Papillomavirus, 25 Rue du Dr Roux, 75024 Paris Cedex 15, FRANC
Location/Qualifiers
                                                                                                                                                                                                           X67160.1 GI:1197491
E6 gene; transforming gene.
Human papillomavirus type 68
Human papillomavirus type 68
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
Alphapapillomavirus.
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AR084345
                                                                                                                                           Longuet, M., Beaudenon, S. and Orth, G.
Two novel genital human papillomavirus (HPV) types, HPV68 and HPV70, related to the potentially oncogenic HFV39
J. Clin. Microbiol. 34 (3), 738-744 (1996)
                                                                                                                                                                                                                                                                                      Human Papilloma Virus E6
X67160
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/organism="Human papillomavirus type 68"
/mol_type="genomic DNA"
/db xref="taxon:45240"
/cell_line="intraepithelial neonlagia"
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AR084352
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Orth, G., Beaudenon, S. and Longuet, M. Genital human papillomavirus type 688 potentially oncogenic HPV-39 Patent: US 5981173-A 14 09-NOV-1999; Location/Qualifiers
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TTATCAATAAGGTGCATGAGTTGCCTGAAACC
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/protein id="CAA47633.1"
/protein id="CAA47633.1"
/db_xref="GOA:P54668"
/db_xref="GOA:P54668"
/db_xref="UniProtKB/Swiss-Prot:P54668"
/tzanslation="MHSPKTYQBIYUELCPYNEIQPVDIVCHEQLGDSDDBIDEPDH
/translation="MHSPKTYQBIYUELCPYNEIQPVDIVCHEQLGDSDDBINEPDH
ANNHHQHILLARRDEQQRHRIQCLCCKCNKALQLVVEASRDNLRTLQQLFMDSLNFVC
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/codon_start=1
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/product="transforming protein"
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IRCMSCLKPLCPAEKLRHLTTKRRLHKIAGNPTGQCRHCWTSKREDRRRIRQETQV"
                                                                                                                                              /organism="unknown"
/mol_type="unassigned
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84.4%;
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84.4%;
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                                                               Score 24; DB
Pred. No. 11;
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Pred. No. 12;
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2785
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L1 protein (L1) genes,

GI:1345087

HPU22461
3283 bp
Human papillomavirus type 70 E6
Ll protein (L1) genes, complete

protein

linear (E6), E7 p

r VRL 31-MAY-1996 protein (E7), and

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ORGANISM
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Direct Submission
Submitted (13-MAR-1995) Michele Longuet, Laboratoire
Submitted (13-MAR-1995) Michele Longuet, Laboratoire
1 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Longuet, M., Beaudenon, S. and Orth, G.
Two novel genital human papillomavirus (HPV) types,
HPV70, related to the potentially oncogenic HPV39
J. Clin. Microbiol. 34 (3), 738-744 (1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Alphapapillomavirus
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Human papillomavirus type 70
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Papillomavirus, Unite INSERM 190, Roux, Paris 75015, France
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                                                                                                       Similarity
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                                                                                 Conservative
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/gene="E7"
2939. .3268
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/gene="E6"
                                                                                                                                                                                                                                     /note="putative transforming protein"
/codon_start=1
/product="87 protein"
/protein_id="AAC54881.1"
/db_xref="GI:1345090"
/translation="MGPRPTLQEIVLDLYPYNEIQPVDLVCHEQLEDSDNETDEPDH
/translation="MGPRPTLQEIVLDLYPYNEIQPVDLYCHEQLEDSDNETDEPDH
/translation="MGPRPTLQEIVLDLYPYNEIQPVDLYCHEQLEDSDNETDEPDH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /translation="marfpnpaerpyklpdlcTaldTTlhdITIDcvyckTqlqqtev
YEFAFSDLFIVYRNGEPYAACQKCIKFHAKVRELRHYSNSVYATTLBSITNTKLYDLS
IRMSCLKplcpaeklrhvntkrrfhqIagsytgqcrhcwtsnredrrikretqv"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="putative"
2454. .2930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DLKEKFSTELDQFPLGRKFLLQVGARRPTIGPRKRPASAKSSSSASKHKRKRVSK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HTMNPAILDNWNIGVTPPPSASLVDTYRYLQSAAIACQKDAPTPEKKDPYDDLKFWNV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DTTRSTNFTLSACTETAIPAVYSPTKFKEYTRHVEEYDLQF1FQLCT1TLTADVMAYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /codon_start=1
/product="E6 protein"
/protein_id="AAC54880.1"
/db_xref="GI:1345089"
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mol_type="genomic DNA"
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                                                                                                       75.0%;
84.4%;
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                                                                            Score 24; DB 10;
Pred. No. 11;
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Reuter,S., Bartelmann,M., Vogt,M., Geisen,C., Naplerski,I., Kahn,T., Delius,H., Lichter,P., Weitz,S., Korn,B. and Schwarz,E. APM-1, a novel human gene, identified by aberrant co-transcriptiwith papillomavirus oncogenes in a cervical carcinoma cell line, encodes a BTB/POZ-zinc finger protein with growth inhibitory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APM-1 gene; E6 gene; E7 gene;
Human papillomavirus type 68
Human papillomavirus type 68
Viruses; dsDNA viruses, no RNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Characterization of a novel human papillomavirus DNA in the cervical carcinoma cell line ME180 J. Virol. 65 (10), 5564-5568 (1991)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Krebsforschungszentrum, Angewandt
Feld 242, D-69120 Heidelberg, FRG
Revised by author 18-DEC-97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (13-AUG-1997) H. Delius,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Delius,H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9427755
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Reuter, S., Delius, H., Kahn, T., Hofmann, B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alphapapillomavirus.
1 (bases 1 to 4618)
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Y14591
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                                                                                                                                                      /Codon_start=1
/product="E6 PAr04931.1"
/protein id="CAR04931.1"
/protein id="CAR04931.1"
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/db xref="G0:07KYK8"
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/db xref="UnterPro:KB/TrEMBL:Q7KYK8"
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/transl=1ion="Malfhnpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklphpeerpyklph
  /codon_start=1
/product="E7 protein"
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| . .477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/chromosome="18"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Organism="Human papillomavirus type
(mol type="mRNA"
                                                                                                       'gene="E7"
                                                         gene="E7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'gene="E6"
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us type 68 E6 and
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REFERENCE
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ORGANISM
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Human papillomavirus
Human papillomavirus
Viruses; dsDNA viruses, no RNA stage; Papillomaviridae;
unclassified Papillomaviridae.
1 (5042)
1 (bases 1 to 6042)
1 (bases 7,5, Delius, H., Kahn, T., Hofmann, B., zur Hausen, H
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Characterization of a novel human papillomavirus DNA in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Schwarz, E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   M73258.1 GI:184383
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                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
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                                                                                                                                                                                                                                                                  focus
                                                                                                                                                                                                                                                                                             xref="taxon:10566"
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84.4%;
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Pred. No. 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        line ME180
-5568 (1991)
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n papillomavirus proviral DNA.
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                                                                                                                                                                                   Госат
   4246 TTATCAATAAGGTGCATGTGTTGCCTGAAACC 4277
                                                                                                                                                . Similarity
27; Conserv
                                                          TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                    Conservative
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AFADPTIIEVPQTGEVSGNVEVSTTPSGTHGYEEIEMQVFATHGTGTEPISSTPIPGV
SRVAGPRLYSRALQUINDEVTTPSGTHGYEEIEMQVFATHGTGTEPISSTPIPGD
SRVAGPRLYSRALQUINTENESFPVTHPSSFFFTOTGAQVHYYHDISGIAPADSIEL
DIVALHEPALTSRRGTVRFSRVGKKATMFTRRGTQGAQVHYYHDISGIAPADSIEL
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NTTIPIGTAMNTPNNTGPDVVLPATSPQLFLTPSTPIDTTYAITIYGTNYYLLPLLFF
                                                                                                                                                                                                                                                                                                                                        QKRQMSMPQWIKFRCSKCDEGGDWRMDCRIYYLCLLQAIS"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NLKEKFSSELDQFPLGRKFLLQAGVRRRPTIGPRKRPATATTASTSKHKRKRVSK"
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db_xref="GI:6478873"
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product="Ela"
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.VNHHQHQLLARRDEQQRHTIQCTCCKCNNLLQLVVEASRENLRNVELLPMDSLNFVC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein_id="AAF14012.1"
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                                                                                                                                                0;
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10;
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AUTHORS
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AUTHORS
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ORGANISM
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DQ080079
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PUBMED
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (31-MAY-2005) Microbiology and Immunology, Albert Einstein College of Medicine of Yeshiva University, 1300 Morris Park Ave., Ullmann Room 515, Bronx, NY 10461, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 7822)
Narechania, A., Chen, Z., Desalle, R. and Burk, R.D.
Phylogenetic Incongruence among Oncogenic Genits
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DQ080079 7822 b
Human papillomavirus type 68a,
DQ080079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 (bases 1 to 7822)
Chen, Z. and Burk, R.D.
Direct Submission
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J. Virol. 79 (24), 15503-15510 (2005)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  country="France"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7822 bp
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Similarity
   Conservative
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NTTIPLGTAMNTFVNTGEDVVLPSTTPQLPLTPSTPIDTTPAITIYGSNYYLLPLLFF 
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                             Score 24;
Pred. No.
   Mismatches
                                    10;
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                                                           Length 7822;
   Indels
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Result
No.
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Maximum DB
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Perfect score:
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Maximum Match 100%
Listing first 1000
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seq length: 2000000000
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28
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Gapop 10.0 , Gapext 1.0
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 GenCore version (c) 1993 - 2006
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Biocceleration Ltd.
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Aat72413 Human Pap
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Aat316470 HPV16 E6/
Aan91600 Partial n
Adx47004 Human pap
Aef40156 Human pap
Aat14663 E6/E7 reg
Aax89756 Probe seq
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                Claim 27;
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   Novel hybridisation assay probes have been developed comprising an oligonucleotide which will hybridise under selected conditions to Human oligonucleotide which will hybridise under selected conditions to Human papillomavirus (HPV) Type 16 and/or 18 (but not Types 6, 11, 31, 33, 35, 39, 45, 51, 52, or 58) target nucleic acids to form detectable target: probe duplex. The present sequence represents a specifically claimed HPV PCR primer (amplification oligonucleotide). Oligonucleotides are useful to detect HPV Type 16 and/or 18 in samples e.g. cervical smears, body fluid, and distinguish these from other HPV variants. Papillomaviruses
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CC Novel hybridisation assay probes have been developed comprising an CC oligonucleotide which will hybridise under selected conditions to Human CC oligonucleotide which will hybridise under selected conditions to Human CC Papillomavirus (HPV) Type 16 and/or 18 (but not Types 6, 11, 31, 35, 35, 35, 45, 51, 52, or 58) target nucleic acids to form detectable target: CC probe duplex. The present sequence represents a specifically claimed HPV CC PCR primer (amplification oligonucleotide). Oligonucleotides are useful CC to detect HPV Type 16 and/or 18 in samples e.g. cervical smears, body CC fluid, and distinguish these from other HPV variants. Papillomaviruses CC are small DNA viruses and HPV Types 16 and are associated with genital CC cancers. HPV PCR primers can amplify HPV Type 16 and/or 18 nucleic acid is CC detecting probe:target duplex formation; target nucleic acid is CC optionally amplified. Type 16 or 18 can be specifically detected by CC amplifying nucleic acids with at least one specifically claimed PCR CC primer. For Type 18 detection, a helper probe may be used.

CC Oligonucleotides can distinguish target sequences from phylogenetically
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G; 0 T; 8
      12
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      0 Other;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Other;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
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Best Loc Matches

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28; Conserv

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Score 28; DB Pred. No. 0.4 0; Mismatches

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Query Match

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RESULT 5
ADX26909
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밁
                         S
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Best Local S
Matches 28
                                                                                                                                           The invention relates to a novel immortalized endometrial glandular epithelial cell strain in which an exogenous immortalizing gene is introduced and the properties of the cell line as non-cancer typical glandular epithelial cells, are maintained. The cell line of the invention may be useful for research of reproduction, particularly for analyzing the adhesion of the fertilized egg during implantation, analyzing the effect of steroid hormones, analyzing the mechanism of multistep canceration of the inner glandular epithelial membrane by genetic engineering of the cell line which is otherwise non-cancerous, and analyzing the effect of carcinogenic substances on the cell line. The cell line maintains the properties of normal somatic cells and the properties of endometrial glandular epithelial cells. The current sequence is that of the Human papillomavirus type 16 86 deltais mutant DNA of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADX26909 standard; DNA; 452 BP
                                                                                                                                                                                                                                                                                                                                                                                                      Immortalized endometrial glandular epithelial cell strain containing exogenous immortalizing gene and maintains properties of non-cancer and typical glandular epithelial cells, useful in field of research creproduction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "wild-type bases 4-25 have been removed" misc_difference 449. .450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human papillomavirus type 16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cancer; neoplasm;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cell culture; immortalization; Gynecology and obstetrics; Andrology;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-MAY-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADX26909
                                                                                                                   Sequence 452 BP;
                                                                                                                                                                                                                                                                                                                                                                             Claim 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31-JUL-2003; 2003JP-00283911.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     31-JUL-2003; 2003JP-00283911.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24-FEB-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JP2005046117-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (UYKA-) UNIV KANAZAWA TLO YG. (KOKU-) KOKURITSU GAN CENT SC
                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          papillomavirus type 16 E6 delta151 mutant DNA
229
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KOKURITSU GAN CENT SOCHO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACATTATTGTTATAGTTTGTATGGAAC 28
GACATTATTGTTATAGTTTGTATGGAAC 256
                            GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 4; 22pp; Japanese
                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note= "Wild-type bases 472-474 have been removed"
                                                                                                                   156 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mutant; ds.
                                                                    100.0%;
                                                                                                                   70 C;
                                                         <u>,</u>
                                                                      Score 28; DB 14; Length 452; Pred. No. 0.41;
                                                                                                                  98 G; 128 T; 0 U; 0 Other;
                                                         Mismatches
                                                         0
                                                           Indels
                                                         <u>,</u>
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of
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ADF09670 FA ADF09 FO FOR ADF09 FO FOR ADF09 FO FOR ADF0 F
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AAL54430
ID AAL5
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Best Local S
Matches 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to a novel purified complex comprising a first polypeptide and a second polypeptide, where the polypeptides comprise defined amino acid sequences listed in the specification, and where the first polypeptide binds to the second polypeptide. A complex of the invention has virucide and cycostatic activity, and may have a use as a vaccine. The complex is useful for identifying agents for treating or preventing a conditions involving altered level of the complex, e.g. human papilloma virus (HPV) infection, or cancer. The compositions, antibodies, vectors and methods are useful for treating such diseases. The compositions in ADF09584-ADF09697 represent cDNA's of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human papillomavirus 16 E6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New purified complex comprising a first polypeptide and a second polypeptide, useful for identifying agents for treating/preventing a condition involving altered level of the complex e.g. human papilloma virus infection, or cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               human; protein-protein interaction; virucide; cytostatic; vaccine; human papilloma virus; HPV; cancer; 88; gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 477 BP; 167 A; 76 C; 103 G; 131 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 3; SEQ ID NO 108; 156pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Jackson A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14-FEB-2002; 2002US-0356911P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-AUG-2003
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                                                                                                                                                                                                AAL54430 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P-PSDB; ADF09515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2003-689668/65.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14-FEB-2003; 2003WO-US004594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (HOFF ) HOFFMANN LA ROCHE INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         invention.
                                                                                                                                                                                                                                                                                                                                              251
                                                                                                                                                                                                                                                                                                                                                                                                 1 GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURAGEN CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                              GACATTATTGTTATAGTTTGTATGGAAC 278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ooi CE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                DNA; 477 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 28;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cuthill S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ID NO:108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 477;
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AAL54430;

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E6 siRNA sequence

03-APR-2003 (first entry)

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RESULT 8
ADX2690E
ID ADX2
XX
AC ADX2
AC ADX2
XX
DT 05-M
XX
XX
DE Huma
DX
XX
Cell
KW cell
XX
CAN
XX
CHuma
XX
XX
Huma
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to a novel method for selective post-translational silencing in a mammalian cell of the expression of an exogenous gene of viral origin. The method comprises introducing into the cell a small interfering RNA (siRNA) construct that is homologous to a part of the call as mall content of the gene. The method is useful for the selective post-transcriptional silencing of an exogenous gene of viral origin (e.g. an oncogene or human papilloma virus (HPV) gene) in a mammalian cell. The method or the siRNA is particularly useful for treating cancer, human cervical cancer, human immunodeficiency virus (HIV), smallpox, flu, common cold, or a disease caused by a HPV (e.g. genital warts, cervical cancer, penile cancer, malignant squamous cell carcinomas or verruca vilgaris). An siRNA construct or vector is useful for use as a medicament for the diseases mentioned. The polynucleotide sequence of the invention can be used to treat disorders by gene therapy. This polynucleotide sequence represents the DNA of the E6 siRNA sequence of the invention
                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                        Matches
               Human papillomavirus type 16
                                                cell culture; immortalization; Gynecology and obstetrics; Andrology; cancer; neoplasm; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Selective post-transcriptional silencing of an exogenous viral gene (e.g. human papilloma virus (HPV) E6), for treating e.g. cancer, comprises using a small interfering RNA (siRNA) construct homologous to an mRNA of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  selective post-translational silencing; siRNA; oncogene; genital wart human papilloma virus; HPV gene; cancer; human cervical cancer; HIV; smallpox; flu; common cold; cervical cancer; penile cancer; malignant squamous cell carcinoma; verruca vulgaris; gene therapy; ds
                                                                                                                                                                                                                    ADX26908 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 477 BP; 167 A; 76 C; 103 G; 131 T; 0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Fig 1A; 44pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-JUL-2001; 2001GB-00017358.
14-JAN-2002; 2002GB-00000688.
17-JUN-2002; 2002GB-00013855.
                                                                                                        Human papillomavirus type 16 E6 wild-type gene
                                                                                                                                            05-MAY-2005
                                                                                                                                                                                 ADX26908
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Pred. No. 0.41;
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RESULT 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          analyzing the adhesion of the fertilized egg during implantation, analyzing the effect of steroid hormones, analyzing the mechanism of multistep canceration of the inner glandular epithelial membrane by genetic engineering of the cell line which is otherwise non-cancerous, and analyzing the effect of carcinogenic substances on the cell line. cell line maintains the properties of normal somatic cells and the properties of endometrial glandular epithelial cells. The current
misc_feature
                                         misc_feature
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                                                                                                                                                                           Human papillomavirus.
                                                                                                                                                                                                                                                Human papilloma virus E6/E7 protein variant.
                                                                                                                                                                                                                                                                              27-AUG-2003
11-JAN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to a novel immortalized endometrial glandular epithelial cell strain in which an exogenous immortalizing gene is introduced and the properties of the cell line as non-cancer typical glandular epithelial cells, are maintained. The cell line of the glandular by the useful for research of reproduction, particularly for invention may be useful for research of reproduction, particularly for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Immortalized endometrial glandular epithelial cell strain containing exogenous immortalizing gene and maintains properties of non-cancer and typical glandular epithelial cells, useful in field of research and typical glandular epithelial cells, useful in field of research and typical glandular epithelial cells, useful in field of research and typical glandular epithelial cells.
                                                                                                                                                                                                     Human papilloma virus; E6; E7; deletion mutant;
humoral immune response; cellular immune respon
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100.0%; Pred. No. 0.
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                                                                                                  "E6/E7 fusion protein (deletion mutant)."
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A variant of the human papilloma virus (HPV) 86 or 87 protein which elicits a humoral and/or cellular immune response against HPV can be used in vaccines against HPV or to treat HPV infection. The variant is preferably a deletion mutant comprising at least half, and preferably two-thirds of full length 86 or 87 protein starting from the N- or C-thirds of full length 86 or 87 protein starting from the N- or C-thirds of full length 86 moiety fused to a full length 87 moiety.
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E6 and/or E7 protein, pref
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RESULT 10
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11-JAN-1997
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        A variant of the human papilloma virus (HPV) E6 or E7 protein which elicits a humoral and/or cellular immune response against HPV can be used in vaccines against HPV or to treat HPV infection. The variant is preferably a deletion mutant comprising at least half, and preferably two thirds of full length E6 or E7 protein starting from the N- or C-terminal, or is a full length E6 moiety fused to a full length E7 moiety. The variant optionally has a linkage moiety and a foreign protein or peptide which facilitates the purification of, and enhances the immunogenicity of, the fusion protein. This sequence encodes a fusion between the C-terminal end of E7 and the N-terminal end of E6. (Updated on 27-AUG-2003 to correct OS field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 519
                                                                                                                                                                                           Vaccine variants of human papilloma virus antigens - contain variants of E6 and/or E7 protein, pref. deletion mutants, and are used to treat or prevent HPV infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human
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25-MAR-2003
28-JUN-1995
                                                                                                           The sequences of the E6 and E7 polypeptide-encoding regions of human papillomavirus (HPV) 16 and 18 are given in AQ75470-71 and the encoded proteins in AAR63865-66, respectively. Probes and primers based on these sequences were used for HPV infection diagnosis; expression of E6 and E7 is diagnostic for cervical cancer or pre-malignant states. (Updated on 25-MAR-2003 to correct PN field.) (Updated on 16-OCT-2003 to standardise
                                                                                                                                                                                                         Human papilloma virus detection assay - by amplification using self sustained sequence replication and hybridisation with a detector pro
                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 519
                                                                                                                                                                                       Disclosure; Page 24-26; 79pp;
                                                                                                                                                                                                                                                                                                                 06-MAY-1993;
                                                                                                                                                                                                                                                                                                                                     06-MAY-1994;
                                                                                                                                                                                                                                                                                                                                                           24-NOV-1994.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAQ75470 standard;
                                                                                 Sequence 570
                                                                                                                                                                                                                                          P-PSDB; AAR63865.
                                                                                                                                                                                                                                                   WPT; 1995-006821/01
                                                                                                                                                                                                                                                                                                                                                                               WO9426934-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cervix cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAQ75470;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HPV16 E6/E7
                                                                                                                                                                                                                                                                                             (BAXT ) BAXTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HPV16; E6
252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     papillomavirus; strain 16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28;
                   μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 GACATTATTGTTATAGTTTGTATGGAAC 28
                                       . Similarity
28; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
GACATTATTGTTATAGTTTGTATGGAAC 279
              GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACATTATTGTTATAGTTTGTATGGAAC 485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       encoding region
                                       100.0%;
larity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (revised)
(revised)
(first en
                                                                                BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BP; 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein; E7 protein; diagnosis; cervical dyplasia;
ds.
                                                                                                                                                                                                                                                                                             DIAGNOSTICS INC.
                                                                                                                                                                                                                                                                                                                93US-00058920.
                                                                                                                                                                                                                                                                                                                                      94WO-US005085
                                                                                                                                                                                                                                                                                                                                                                                                                  /label= 86_encoding_region
481.570
                                                                                 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                    /label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 28; DB 2; Length 519, 100.0%; Pred. No. 0.41;
                                                                                A; 93 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; 97 C; 111 G; 144 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                            b
E7_encoding_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            570
                                       0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0,
                                     Score 28; DE
Pred. No. 0.4
0; Mismatches
                                                                                119 G; 159
                                                                                                                                                                                       English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                 0.41;
                                                          DB 2;
                                                                                T; 0 U; 0 Other;
                                       <u>;</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                           Length 570;
                                        Indels
                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                         probe.
                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
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RESULT 13 ADR47004

ADR47004 standard;

DNA;

ZXBXBXXX

ADR47004; 18-NOV-2004

(first

entry)

ds; gene; cytostatic; virucide; dengue virus; recombinant replicon;

Human papillomavirus type 16 E7 gene for Dengue virus vaccine

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RESULT 12
AAN91600
맑
                       δ
                                                                                                      Query Match
Best Local
                                                   Matches
                                                                                                                           The patent is for a rapid in situ hybridisation assay for detecting and typing human papilloma virus (HPV) in non-frozen cellular smears fixed to a support in absence of aldehyde-based crosslinking reagents. The assay comprises: (1) combining nucleic acid in the sample with at least one detectable probe able to hybridise with 1 or more HPV types; and (2) detecting presence or absence of hybrid complexes. Opt. several probes are used, eg one for HPV types 6 and 11, associated with benign warts, and one for types 16, 18, 31, 33 and 35, associated with cervical cancer. The assay can differentiate between HPV types. It is esp. used as a secondary test. The probes can be synthesised or cloned. (Updated on 27-AUG-2003 to correct OS field.)
                                                                                                     Sequence 712 BP; 253 A; 120 C;
                                                                                                                                                                                                                                                                                                                 Hybridisation test with long labelled examining cervical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human papilloma virus; type 16; cellular smear; benign cervical
                                                                                                                                                                                                                                                                                           Disclosure; Page ?; 39pp; English.
                                                                                                                                                                                                                                                                                                                                                                         WPI; 1989-114406/15.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-SEP-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO8902934-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Partial nucleotide sequence 16 (HPV-16).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-AUG-2003
17-JUL-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAN91600;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAN91600 standard;
                                                                                                                                                                                                                                                                                                                                                                                                   Schwartz DE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-APR-1989.
                                                                                                                                                                                                                                                                                                                                                                                                                             (MICR-) MICROPROBE CORP
333
                                                   28;
                                                               Similarity
               GACATTATTGTTATAGTTTGTATGGAAC 28
GACATTATTGTTATAGTTTGTATGGAAC 360
                                                 100.0%;
ilarity 100.0%;
Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (revised)
(first en
                                                                                                                                                                                                                                                                                                                                                                                                   Adams
                                                                                                                                                                                                                                                                                                                                                                                                                                                      87US-00103979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 88WO-US003367
                                                                                                                                                                                                                                                                                                                 for human papilloma virus in cell smears - probe specific for particular virus types, smears.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA;
                                                                                                                                                                                                                                                                                                                                                                                                   HT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        712
                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŝ
                                                Score 28; DB 1
Pred. No. 0.41;
Mismatches
                                                                                                     155 G; 184 T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in situ hybridisation assay; wart; cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            end)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of human
                                                                          ۲.
                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           papilloma virus
                                                                                                     U; 0 Other;
                                                                          Length 712;
                                                   Indels
                                                   <u>..</u>
                                                                                                                                                                                                                                                                                                                                by reaction esp. for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (VPV)
                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            type
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RESULT 14
AEF40156
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 BXXXE
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                                                                                                                                                                                                                                                                                                                       CC adengue virus recombinant replicon has a deletion of the complete coding CC sequence for preM protein of dengue virus and also includes elements of CC e.g. the non-coding region in the whole of the 5'-end, the coding region CC of the front 20 amino acids in the C protein, and the coding region of CC obtained vaccines are useful in producing preventives or/and remedies for CC cancer like cervical cancer and viral diseases. Such vaccines can CC efficiently express antigen in infected cells, which is because dengue CC virus can infect dendritic cells, and can effectively present antigen to CC provide immunity effect. Different types of dengue virus can be used to CC repeatedly produce efficient immune response thereby strengthening the CC cancer immune system against the pathogen that contains such antigen. CC Human papillomavirus (HPV) vaccines were prepared by using a gene-CC expressing system using of the full-length dengue virus cDNA clone CC (PRS/FLD2). The recombinant virus vectors were transfected into baby CC hamster kidney (BHX) cells to enable the screening of BHX-21 Tet-off cell CC lines. This sequence corresponds to the HPV type 16 E7 gene used as the CC gene of interest in the recombinant replicon of the invention.
                                                                                                                                                                                                                           Query Match
Best Local S
Matches 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (SHAN-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus type 16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           deletion; preM protein; C protein; NS1 protein signal; vaccine;
cervical cancer; viral disease; antigen; dendritic cell; immune response;
                                AEF40156
                                                                   AEF40156 standard;
                                                                                                                                                                                                                                                                                            Sequence 768 BP; 255 A; 139 C; 172 G; 202 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 2; SEQ ID NO 1; 38pp; Chinese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Virus-like particle vaccines containing dengue virus recombinant replicon as core for carrier, applicable in preventives or/and remedies for tumors like cervical cancer and viral diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENBANK;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2004-625870/60
P-PSDB; ADR47005.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-JAN-2004; 2004WO-CN000088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-AUG-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO2004072274-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          human
23-MAR-2006
                                                                                                                                                        545
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SHANGHAI TENGEN BIOMEDICAL CO LTD. TENGEN BIOMEDICAL CO.
                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BEIJING ORIENTAL TENGEN TECHNOLOGY DEV C.
                                                                                                                                                                                          GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                        GACATTATTGTTATAGTTTGTATGGAAC 572
                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2003CN-00115272.
2003CN-00115273.
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        product= "HPV-16 E7 protein"
                                                                    DNA; 768 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . 768
                                                                                                                                                                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20
                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                           Score 28; DB 13; Length 768; Pred. No. 0.41;
                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                           0
                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                              0
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XXXXXXXXXX
                                                                                                                                                                                                                      Query Match
Best Local S
Matches 28
                                             27-AUG-2003
25-MAR-2003
10-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                           New recombinant DEN replicons with a deletion of preM, useful for producing a drug for the prophylaxis and treatment of cancer or viral infection.
                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                        replicon contains exogenous nucleotide sequences such as human papillomavirus (HPV) antigen proteins, immune regulators or combination of HPV antigen and immune regulators. The invention is useful for producing a drug for the prophylaxis and treatment of cancer or viral
                                                                                                                                                                                                                                                                                                                                                   The present invention provides a virus-like particle (VLP) vaccine which contains dengue virus (DEN) recombinant replicon as its core. The DEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-JAN-2004;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-JAN-2003;
30-JAN-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human papillomavirus type 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vaccine; virus-like particle; replicon; therapeutic; cancer; cytostatic; neoplasm; viral infection; virucide; infection; oncogene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human
                                                                                                                                                                                                                                                                                                                                                                                     Example 2; SEQ ID NO 1; 24pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENBANK;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pang X;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-JUL-2005;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US2006018928-A1
                     E6/E7 region of Human Papilloma Virus 16 (HPV 16).
                                                                                                                  AAT14663
                                                                                                                                                                                                                                                                                                      producing a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (PANG/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2006-109169/11.
                                                                                                                                                                           545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     papillomavirus 16 (HPV-16) E7-E6 oncogene
                                                                                                                                                                                                                        28;
                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AEF40157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PANG
                                                                                                                                                                                       GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                  standard;
                                                                                                                                                                                                                                                                    768 BP; 255 A; 139 C; 172 G; 202 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           AF486352, AF469197, AF472508.
                                                                                                                                                                           GACATTATTGTTATAGTTTGTATGGAAC 572
                                                                                                                                                                                                                                                                                           The present sequence is a human papillomavirus
                                                                                                                                                                                                                          Conservative
                                           (revised)
(revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2003CN-00115272.
2003CN-00115273.
2004WO-00072274.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2005US-00192923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   oncoprotein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /product= "Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'note= "No stop codon"
                                                                                                                  DNA;
                                                                                                                                                                                                                                  100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                  Score 28; DB 1
Pred. No. 0.41;
                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                               DB 15;
                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16
                                                                                                                                                                                                                                              Length 768;
                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (HPV-16)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                E7-E6
                                                                                                                                                                                                                          <u>..</u>
                                                                                                                                                                                                                          Gaps
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Human papilloma virus; HPV; detection; cervical cancer;

amplification;

Ś 뮍

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An in situ hybridisation assay for detecting an intracellular marker of low copy number in cells comprises fixing the cells to a support using paraformaldehyde; treating the cells with a protease to permeabilise them without altering morphology; adding amplification reagents; incubating the cells at below fifty degrees celaius to perform amplification by self—sustained sequence replication; adding a labelled probe complementary to the region between the primers; washing cells to remove unhybridised probe and then detecting the labelled probe. The E6/E7 region of human papilloma virus (HPV) 16 is used especially to detect mRNA being transcribed from this region which becomes active in transformed cells. Primers used to amplify fragments of the E6/E7 region are described in AAT14664-T14674. (Updated on 25-AMR-2003 to correct PF field.) (Updated on 27-AUG-2003 to correct OS field.)
                                                                                                                                                                                               Example 2;
                                                                                                                                                                                                                  Detection of low copy number intracellular markers - of target RNA in fixed cells then hybridisation with detecting human papilloma virus in cervical cells.
                                                                                                                                                                                                                                                                   WPI; 1996-200273/20
                                                                                                                                                                                                                                                                                                                                        10-DEC-1991;
                                                                                                                                                                                                                                                                                                                                                              22-MAR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                           US5506105-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                       primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             primer_bind
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    primer_bind
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human papillomavirus type 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      hybridisation;
                                                                                                                                                                                                                                                                                                                 (DADE-)
                                                                                                                                                                                                                                                                                                                 DADE
                                                                                                                                                                                             Fig 3; 21pp;
                                                                                                                                                                                                                                                                                                                 INT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /*tag= b
/note= "Primer H
37. .57
                                                                                                                                                                                                                                                                                                                                                              94US-00216233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      diagnosis; transformed cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag= g
/note= "Primer H16-686
660. .683
                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= i
/note= "Primer H16-743
745. .768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /*tag= h
/note= "Primer BB112
/15. .738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               658. .681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                 'note= "Primer H16-773 binding site.
                                                                                                                                                                                                                                                                                                                                                                                                                                            *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "Primer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /*tag= d
/note= "Primer BB114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           note= "Primer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  note= "Primer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       notes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . 621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Primer
                                                                                                                                                                                             English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BB109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BB4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  H16-58 binding site."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BB113 binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BB111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                binding site."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    binding site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            binding site."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              binding site."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      binding site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E6; E7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     site."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     site.
                                                                                                                                                                                                                              by 3SR amplification labelled probe, for
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Sequence

776 BP;

260

Α.

139

Ç 169

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208

ij

0

₽

0 Other

RESULT 17
AAQ29389
ID AAQ29

AAQ29389

standard;

DNA;

790

ВP

밁 Ś

ZAXEEE

AAQ29389;

24-OCT-2003 25-MAR-2003 09-MAR-1993

(revised)
(revised)
(first entry)

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RESULT 16
AAX89756
ID AAX89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 28
                                                   Matches
                                                                            Query Match
                                                                                                       Sequence
                                                                                                                                  comparing th
27-AUG-2003
                                                                                                                                 This nucleotide probe is specific for the HPV16 Human Papilloma Virus (HPV) gene. The degree of HPV infection can be assessed, by measuring levels of expression of genes involved in the diseased state, and comparing the expression to each other or to reference genes. (Update 27-AUG-2003 to correct OS field.)
                                                                                                                                                                                                                  Disclosure; Fig 5; 35pp; English.
                                                                                                                                                                                                                                               comparison
                                                                                                                                                                                                                                               New method for assessing Human Papilloma Virus (HPV) infection comparison of gene expression levels.
                                                                                                                                                                                                                                                                                      WPI; 1999-443850/37
                                                                                                                                                                                                                                                                                                                 Lorincz AT;
                                                                                                                                                                                                                                                                                                                                                                                 12-DEC-1997;
05-JAN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                           11-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human papilloma virus; infection; assay; cancer; virus; HPV; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  аввау;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-AUG-2003
12-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAX89756 standard;
                                                                                                                                                                                                                                                                                                                                                                     17-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO9929890-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Probe sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAX89756;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      17-JUN-1999.
                                                                                                                                                                                                                                                                                                                                          (DIGE-) DIGENE
                                                                 Local
258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            251
                        1 GACATTATTGTTATAGTTTGTATGGAAC 28
                                                   28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 GACATTATTGTTATAGTTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28;
                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                       779 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACATTATTGTTATAGTTTGTATGGAAC 278
                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (revised)
(first en
                                                                                                                                                                                                                                             gene
                                                                                                                                                                                                                                                                                                                                                                   97US-0069426P.
98US-0070486P.
98US-0082167P.
                                                                                                                                                                                                                                                                                                                                            CORP
                                                                                                                                                                                                                                                                                                                                                                                                                           98WO-US026447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           for HPV 16
                                                                                                         259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA;
                                                                                                                                                                                                                                             expression levels
                                                                100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%;
                                                                                                      A; 139 C; 170 G; 211 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E6/E7
                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 28; DE
Pred. No. 0.4
0; Mismatches
                                                                Score 28; DB
Pred. No. 0.41
                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gene expression;
                                                                 0.41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .41;
                                                                              2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                            Length 779;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 776;
                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              probe;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                detection;
                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                               (Updated
                                                                                                                                                                                                                                                           γģ
                                                   Gaps
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                                                                                                                                               임
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DNA encoding

HPV 16 E6/E7 proteins obtd. by PCR

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8
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                                                   Query Match
Best Local S
Matches 28
                                                                                                                                The fragment of DNA contg. the HPV-16 E6/E7 coding region was prepd. by PCR from plasmid pBR322/HPV16 (Durst et al., PNAS, 80: 3812 (1983)) using oligonucleotides S05 and S06. The DNA prod. has a site for NcoI at the beginning of the E6 gene and a Smal site immediately downstream of the termination codon for E7. The E6 and E7 DRFs are fused together to form a single continuous ORF via site directed mutagenesis and the immortilising potential of E7 is removed by altering two key codons of the HPV E7 sequence. The single ORF of HPV-16 E6/E7 may be inserted into vaccinia virus DNA at neutral sites (pref. by inserting two sets of the DNA in opposite orientations to overcome the problem of intertypic recombination) to make a recombinant virus vector for use immunotherapeutically to accompany the problem of intertypic see also AAQ29385-400 and AAQ29450-69. (Updated on 25-MAR-2003 to correct PN field.) (Updated on 24-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Virus vector; vaccinia virus; papillomavirus; HPV; human; amplification;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-OCT-1992.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       immunotherapeutic; ss.
                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                             Disclosure; Fig la; 83pp; English.
                                                                                                                                                                                                                                                                                                                                                                           them, such as cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                       Recombinant virus vectors encoding human papillomavirus proteins - for treating and vaccinating against HPV infections and conditions caused
                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1992-349219/42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Boursnell MEG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10-MAR-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9216636-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (IMMU ) IMMUNOLOGY LTD
256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               papillomavirus type 16.
                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR27723,
                  GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                         790 BP;
 GACATTATTGTTATAGTTTGTATGGAAC 283
                                                  100.0%;
ilarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91GB-00005383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          92WO-GB000424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Inglis SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag= e
/note= "third reading frame encoding HPV 16
485. .781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag= b
/note= "reading frame
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         note= "reading frame
                                                                                                          262 A; 144 C; 175 G; 209 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         note= "reading frame
                                                                                                                                                                                                                                                                                                                                                                                                                                  AAR27724, AAR27725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               . 790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "second reading frame encoding HPV 16 B7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Munro AJ
                                                     0,
                                                                  Score 28; DB 2;
Pred. No. 0.41;
                                                      Mismatches
                                                      0
                                                                                Length 790;
                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E6"
                                                      0
                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                          γģ
                                                        0;
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RESULT 18

RESULT 19
AAX78792
ID AAX78
XX
AC AAX78
XX
AC AAX78
XX
XX
XX
XX
DT 06-SE

AAX78792;

AAX78792 standard;

DNA;

822

ВÞ

06-SEP-1999

(first entry)

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AT31833

AAT31833

AAT31833

XX

AAT3

AC

AAT3

XX

AAT3

AC

AAT3

XX

DT

DT

10-J

XX

CO

XX

Huma

Huma

XX

Huma

XX

Huma

Huma

Huma

XX

Huma

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                                                                                                                  Query Match
Best Local Similarity
Matches 28; Conserv
                                                                                                                                                                                                                                                                                                                       A variant of the human papilloma virus (HPV) E6 or E7 protein which elicits a humoral and/or cellular immune response against HPV can be used in vaccines against HPV or to treat HPV infection. The variant is preferably a deletion mutant comprising at least half, and preferably two thirds of full length E6 or E7 protein starting from the N- or C- terminal, or is a full length E6 molety fused to a full length E7 molety. The variant optionally has a linkage molety and a foreign protein or peptide which facilitates the purification of, and enhances the immunogenicity of, the fusion protein. This sequence encodes a full length E6/E7 fusion protein. (Updated on 27-AUG-2003 to correct OS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-AUG-2003
10-JAN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAT31833;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAT31833 standard; DNA; 801 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Vaccine variants of human page E6 and/or E7 protein, pref. prevent HPV infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human papilloma virus; E6; E7; deletion mutant; HPV; immune response; humoral immune response; cellular immune response; vaccine; 88.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human papilloma virus E6/E7 protein variant
                                                                                                                                                                                                                                        Sequence 801 BP; 266 A; 150 C; 174 G; 211 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 1; Page 15-16; 37pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-DEC-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27-JUN-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            W09619496-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1996-309518/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Edwards
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (UYQU ) UNIV QUI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-DEC-1995;
251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SJ,
                                                               GACATTATTGTTATAGTTTGTATGGAAC 28
GACATTATTGTTATAGTTTGTATGGAAC 278
                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cox J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QUEENSLAND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94AU-00000157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95WO-AU000868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product= "E6/E7 fusion protein."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .801
                                                                                                                     100.0%; Score 28; DB 2
100.0%; Pred. No. 0.41;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Webb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        papilloma virus antigens - contain variants of f. deletion mutants, and are used to treat or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ę,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Frazer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          H,
                                                                                                                                                                                  2; Length 801;
                                                                                                                            0
                                                                                                                            0
                                                                                                                            Gaps
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AAX29781
ID AAX
XX
AC AAX
AC AAX
AX
DT 17-
DT 22-
DT 22-
DT 22-
DX
Chi
KW Chi
KW tum
XX
Hum
OS Hum
OS Chi
XX
Hop
N W09
DD 04-
DR 17-
XX
PR 22-
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                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 20
                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                        AAX78791-X78801 represent nucleic acid sequences which encode novel constructs comprising an B6 or B7 protein or B6/B7 fusion protein from HPV (represented in AAX25375-Y25386). These constructs are optionally linked to an immunological fusion partner and an immunomodulatory CpG oligonucleotide. The products of the invention can be used to induce an immune response in a patient to an HPV antigen. They can also be used for
 22-AUG-1997;
                       17-AUG-1998;
                                              04-MAR-1999.
                                                                                                   Human papillomavirus.
Haemophilus influenza
                                                                                                                                                                       Prot.D1/3-E6-His/HPV16 coding sequence.
                                                                                                                                                                                                             17-OCT-2003
                                                                                                                                                                                                                                 AAX29781;
                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 822 BP; 277 A; 147 C; 168 G; 230 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example II; Page 48; 62pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Composition comprising induce immune response
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dalemans WLJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-JUL-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W09933868-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fusion protein; immunological fu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HPV fusion protein D1/3-E6-His/HPV16 DNA
                                                                   WO9910375-A2
                                                                                                                                                  Chimeric;
                                                                                                                                                                                                  22-JUN-1999
                                                                                                                                                                                                                                                       AAX29781 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (SMIK)
                                                                                                                                                                                                                                                                                                                                                                            госат
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antigen; prevention;
                                                                                                                                                                                                                                                                                                                 569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1999-405485/34.
                                                                                                                                                                                                                                                                                                                                       H
                                                                                                                                                                                                                                                                                                                                                              28;
                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                       lesion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY25376
                                                                                                                                                                                                                                                                                                                               GACATTATTGTTATAGTTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                GACATTATTGTTATAGTTTGTATGGAAC 596
                                                                                                                                                  E6;
                                                                                                                                                                                                                                                                                                                                                                                                                                 or treating HPV induced tumours
                                                                                                       influenzae.
                                                                                                                                                                                                                                                                                                                                                             100.0%;
llarity 100.0%;
Conservative (
                                                                                                                                                                                              (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            n; E6 protein; E7 protein; E6/E7; immunomodulator; tumour; fusion partner; CpG oligonucleotide; immune response;
                                                                                                                                                  E7; fusion
                       98WO-EP005285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gerard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      97GB-00027262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98WO-EP008563
                                                                                                                                      benign;
                                                                                                                                                                                                                                                       DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           partner; CpG oligonucleotide; immune response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g an E6,
to HPV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CMG;
                                                                                                                                      malignant;
                                                                                                                                                                                                                                                        822
                                                                                                                                                  protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  treatment; ss.
                                                                                                                                                                                                                                                                                                                                                             0,
                                                                                                                                                                                                                                                        ВÞ
                                                                                                                                                                                                                                                                                                                                                                        Score 28; I
Pred. No. 0.
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                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                 protein
                                                                                                                                         virus;
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                                                                                                                                                                                                                                                                                                                                                                         .41;
                                                                                                                                      D; vaccine infection;
                                                                                                                                                                                                                                                                                                                                                                                   2
                                                                                                                                                  vaccine;
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                                                                                                                                                  immunotherapy;
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Best Local S
Matches 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human papillomavirus type Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fusion protein; vaccine; papilloma; cytostatic; virucide; uterine cervix tumor; E6; ds; gene; D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This sequence represents the coding region for a chimeric E6 or E7 protein or E6/E7 fusion protein from Human papillomavirus (HPV) linked the an immunological fusion partner, in this case, a fragment of the Haemophilus influenzae B protein D. The sequence also contains a histidine tag at the C-terminus of the encoded protein. The protein can be used in a vaccine, for immuno-therapeutically treating HPV induced tumour lesions (benign or malignant) and preventing HPV viral infection. (Updated on 17-OCT-2003 to standardise OS field)
                                                                            P-PSDB; AED52634.
                                                                                                       WPI; 2005-557648/57
                                                                                                                                                           Tyrrell AWR;
                                                                                                                                                                                                                                                                22-AUG-1997;
                                                                                                                                                                                                                                                                                                                 24-AUG-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Haemophilus influenzae; strain 772.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fusion protein D1/3-E6-His/HPV16, DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29-DEC-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AED52633;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AED52633 standard; DNA; 822 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 822 BP; 277 A; 147 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Fig 3; 95pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human Papilloma Virus (HPV) fusion proteins - us treatment or prophylaxis of HPV induced lesions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bruck C, Cabezon S
Lombardo-Bencheikh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1999-190587/16.
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                                                                                                                                                                                                               SMIK )
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28;
                                                                                                                                                                                                               SMITHKLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACATTATTGTTATAGTTTGTATGGAAC 596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACATTATTGTTATAGTTTGTATGGAAC 28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; llarity 100.0%; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
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/product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                               BEECHAM BIOLOGICALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Fusion protein D1/3-E6-His/HPV16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 28; DB 2;
Pred. No. 0.41;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   168 G; 230 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gerard CMG,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    papillomavirus infection; protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 822;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
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linked to
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Example 4; Fig 3; 96pp; English.

invention relates to human Papilloma virus (HPV) fusion proteins

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ARTSUTT 22
ARATSUTT 22
ARATSUT
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Best Local Similarity
Matches 28; Conserv
Query Match
Best Local Similarity
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                                                                                                                                                                                 AAX78791-X78801 represent nucleic acid sequences which encode novel constructs comprising an E6 or E7 protein or E6/E7 fusion protein from HPV (represented in AAX75375-Y25386). These constructs are optionally linked to an immunological fusion partner and an immunomodulatory CpG oligonucleotide. The products of the invention can be used to induce an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 822
                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                               Example VI; Page 52; 62pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                    Composition comprising induce immune response
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dalemans WLJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24-DEC-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Fusion protein; E6 protein; E7 protein; E6/E7; immunomodulator; tumour;
immunological fusion partner; CpG oligonucleotide; immune response;
HPV antigen; prevention; treatment; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HPV fusion protein CLYTA-E6-His/HPV16
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                                                                                                                                                             lmmune response in a patient to an HPV antigen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1999-405485/34.
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                                                                                                                               or treating HPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gerard
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100.0%;
                                                                             A; 168 C;
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                                                                                                                                                                                                                                                                                                                                                                                                         HPV
                                                                                                                                     induced
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Pred. No. 0.41;
  Score 28;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                  E7 or E6/E7 fusion protein from HPV
                                                                             209 G; 213 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                     tumours
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     DB 2;
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                                                                                                                                                                They can also
                        Length 879
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AED52641 standard; DNA; 879 BP

29-DEC-2005

(first entry)

AED52641;

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AAX297A 23
AAX297A 4AX297
AAX 29
AC AAX29
AC Chima
AC Chi
RESULT 24
AED52641
ID AED52
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                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 28; Conserv
                                                                                                                                                                                                                                                                                                                                                                This sequence represents the coding region for a chimeric E6 or E7 protein or E6/E7 fusion protein from Human papillomavirus (HPV) linked to an immunological fusion partner, in this case, a fragment of the streptococcus pneumoniae CLYTA protein. The sequence also contains a histidine tag at the C-terminus of the encoded protein. The protein can be used in a vaccine, for immuno-therapeutically treating HPV induced tumour lesions (benign or mailgnant) and preventing HPV viral infection. (Updated on 17-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAX29784 standard;
                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Fig 10; 95pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human Papilloma Virus (HPV) treatment or prophylaxis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bruck C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    04-MAR-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Streptococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chimeric; E6; E7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLYTA-E6-His
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-OCT-2003
22-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lombardo-Bencheikh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO9910375-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lesion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS
                                                                                                                             626
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GACATTATTGTTATAGTTTGTATGGAAC
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                                                                                                                             GACATTATTGTTATAGTTTGTATGGAAC 653
                                                                                                                                                                                                                                                                                                                         879 BP; 289
                                                                                                                                                                        GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cabezon Silva T,
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ilarity 100.0%;
Conservative 0
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(first en
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                                                                                                                                                                                                                                                                                                                         A; 168 C;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rotein; CLYTA; vaccine; immunotherapy; tumour;
virus; infection; ss.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fusion proteins - useful in HPV induced lesions.
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Pred. No. 0.42;
0; Mismatches
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                                                                                                                                                                                                                                                                         Length 879;
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RESULT 25
AAD35101
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XX AAD36
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to human Papilloma virus (HPV) fusion proteins, linked to an immunological fusion partner that provides T helper epitopes to the HPV antigen. Vaccine formulations comprising the fusion proteins are useful in the treatment or prophylaxis of HPV induced lesions (papillomas, warts and cervical cancer). HPV 16 (and HPV 18) E6 and E7 proteins (singly, as an E6-E7 fusion or mutated) were fused to either Haemophilus influenzae D protein (20-127), the C-terminus of Streptococcus pneumoniae Lyth protein (CLyth) or thioredoxin. The present sequence encodes an HPV-Lyth, fusion protein of the invention.
                      EP1195438-A1
                                                                  Human papillomavirus.
                                                                                                               Alphavirus vector therapy; vaccine;
                                                                                                                                                                                         Human papillomavirus enhE6,7 constrcut DNA.
                                                                                                                                                                                                                                          25-JUL-2002
                                                                                                                                                                                                                                                                                       AAD35101;
                                                                                                                                                                                                                                                                                                                                     AAD35101 standard; DNA; 939 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 10; Fig 10; 96pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Vaccine
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-AUG-1998;
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virucide; uterin
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DB; AED52642.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GACATTATTGTTATAGTTTGTATGGAAC 28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         879 BP;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product= "Fusion protein cLytA-E6-His/HPV16"
                                                                                                                  system; human papilloma virus; HPV; cervical cancer; virucide; cytostatic; ds.
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tumor; E6;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         209 G; 213 T; 0 U; 0 Other;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0.42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 14;
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RESULT 26
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Best Local S
Matches 28
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                                                                                                                                                                                                                                                                                                          misc_binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human papillomavirus type 16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HPV-18; HPV-16; amplification; primer; polymerase chain reaction; PCR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HPV-16 fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24-OCT-2003
21-APR-1994
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                                                 11-NOV-1988;
                                                                                                  11-NOV-1988;
                                                                                                                                                      17-MAY-1990.
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                                                                                                                                                                                                                                                                                                                                                                                    misc_binding
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                                                                                                  Sequence 1005 BP;
                                                                                                                         Obtd. by cutting HPV16 with BamHI and PvuII. The patent describes probes (DNA or RNA) and their complements capable of detecting one or a combination of HPV types 6, 11, 16, 18, 31, 33 and 35. (Updated on 25-MAR -2003 to correct PR field.) (Updated on 27-AUG-2003 to correct OS field.)
                                                                                                                                                                                      Claim 40; Page 46; 81pp; English.
                                                                                                                                                                                                                Rapid detection of specific human papilloma virus genotypes -
hybridisation of DNA digest with new labelled nucleic acid pr
                                                                                                                                                                                                                                                      WPI; 1989-324314/44.
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31-MAR-1989;
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ilarity 100.0%;
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89US-00330381.
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                                                                                                  325 A; 182 C; 190 G; 308 T; 0 U; 0 Other;
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Pred. No. 0.42;
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HPV antigen: r
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Composition comprising induce immune response
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Human papillomavirus.
                                                Chimeric; E6; E7; fusior tumour; lesion; benign;
                                                                                                                             Prot.D1/3-E6-E7-His/HPV16 coding sequence
                                                                                                                                                                        17-OCT-2003
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                                                                                                                                                                                                                                                     AAX29782;
                                                                                                                                                                                                                                                                                                   AAX29782 standard; DNA; 1116
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                                                n protein; protein D; vaccine; immunotherapy; malignant; virus; infection; 88.
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Human papillomavirus type 16.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This sequence represents the coding region for a chimeric E6 or E7 protein or E6/E7 fusion protein from Human papillomavirus (HPV) linked t an immunological fusion partner, in this case, a fragment of the Haemophilus influenzae B protein D. The sequence also contains a histidine tag at the C-terminus of the encoded protein. The protein can be used in a vaccine, for immuno-therapeutically treating HPV induced tumour lesions (benign or malignant) and preventing HPV viral infection. (Updated on 17-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                            CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human Papilloma Virus (HPV) treatment or prophylaxis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bruck C, Cabezon S
Lombardo-Bencheikh
                     24-AUG-1998;
                                                                    04-MAR-2005.
                                                                                                                       IN9801903-I4.
                                                                                                                                                                                                                                                                                                                                                                                                                           Fusion protein; vaccine;
virucide; uterine cervix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fusion protein D1/3-E6-E7-His/HPV16, DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          29-DEC-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AED52637;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AED52637 standard; DNA; 1116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1116 BP; 368 A; 208 C; 235 G; 305 T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Fig 6; 95pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1999-190587/16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    04-MAR-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9910375-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chimeric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Haemophilus influenzae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (SMIK)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY02633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACATTATTGTTATAGTTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACATTATTGTTATAGTTTGTATGGAAC 596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cabezon Silva T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first
                     98IN-CH001903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    97GB-00017953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98WO-EP005285
                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                    /product= "Fusion protein D1/3-E6-E7-His/HPV16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                           papilloma;
tumor; E7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 fusion proteins - useful in vaccines HPV induced lesions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Delisse AEF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₽P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 28; DB 2
Pred. No. 0.42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                           cytostatic; papillomavirus infection; E6; ds; gene; D protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gerard CMG
                                                                                                                                                                                                                                                                                                                                                                                                                        gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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linked to
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RESULT 31
AAX78797
ID AAX78
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to human Papilloma virus (HPV) fusion proteins, linked to an immunological fusion partner that provides T helper epitopes to the HPV antigen. Vaccine formulations comprising the fusion proteins are useful in the treatment or prophylaxis of HPV induced lesions (papillomas, warts and cervical cancer). HPV 16 (and HPV 18) E6 and E7 proteins (singly, as an E6-E7 fusion or mutated) were fused to either Haemophilus influenzae D protein (20-127), the C-terminus of Streptococcus pneumoniae Lyth protein (CLyth) or thioredoxin. The present sequence encodes an HPV-H. influenzae D protein, fusion protein of the
                     Example VIII; Page 54-55; 62pp; English
                                            Composition comprising induce immune response
                                                                                                                    Dalemans
                                                                                                                                                                   24-DEC-1997;
                                                                                                                                                                                                                                                                           Synthetic
                                                                                                                                                                                                                                                                                                 HPV antigen; prevention; treatment; ss
                                                                                                                                                                                                                                                                                                             Fusion protein; E6 protein; E7 protein; E6/E7; immu immunological fusion partner; CpG oligonucleotide;
                                                                                                                                                                                                                                                                                                                                                                          06-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                 AAX78797;
                                                                                                                                                                                                                                                                                                                                                                                                                        AAX78797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 1116 BP; 368 A; 208 C; 235 G; 305 T; 0
                                                                                                                                                                                          18-DEC-1998;
                                                                                                                                                                                                                                        WO9933868-A2
                                                                                                                                                                                                                                                             Human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                HPV fusion protein CLYTA-E6E7-His/HPV16 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 6; Fig 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vaccine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P-PSDB; AED52638.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (SMIK)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                1999-405485/34.
DB; AAY25381.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28;
                                                                                                                                           SMITHKLINE BEECHAM BIOLOGICALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SMITHKLINE BEECHAM BIOLOGICALS
                                                                                                                   WLJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACATTATTGTTATAGTTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                        standard; DNA, 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACATTATTGTTATAGTTTGTATGGAAC 596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Silarity 100.0%; IConservative 0;
                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                   Gerard
                                                                                                                                                                   97GB-00027262
                                                                                                                                                                                          98WO-EP008563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97EP-00179535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      96pp;
                                                                                                                    CMG
G
                                             to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          English
                                             E6, E7 or E6/E7
HPV.
                                                                                                                                                                                                                                                                                                                                                                                                                        ₽₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 28; DB 1
Pred. No. 0.42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                        fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                           immunomodulator; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                              immune response;
                                                        from HPV to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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AAX78791-X78801 represent nucleic acid sequences which encode novel

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RESULT 32
AAX29786
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Best Local S
Matches 28
                             Matches
                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             constructs comprising an E6 or E7 protein or E6/E7 fusion protein from HPV (represented in AAY25375-Y25386). These constructs are optionally linked to an immunological fusion partner and an immunomodulatory CpG oligonucleoride. The products of the invention can be used to induce an immune response in a patient to an HPV antigen. They can also be used for preventing or treating HPV induced tumours
                                                                                                                           This sequence represents the coding region for a chimeric E6 or E7 protein or E6/E7 fusion protein from Human papillomavirus (HPV) linked to an immunological fusion partner, in this case, a fragment of the Streptococcus pneumoniae CLYTA protein. The sequence also contains a histidine tag at the C-terminus of the encoded protein. The protein can be used in a vaccine, for immuno-therapeutically treating HPV induced tumour lesions (benign or malignant) and preventing HPV viral infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1173 BP; 380 A; 229 C; 276 G; 288 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLYTA-E6E7-His coding sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17-OCT-2003
22-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAX29786;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAX29786 standard; DNA; 1173
                                                                                                                                                                                                                                              Disclosure;
                                                                                                                                                                                                                                                                      Human Papilloma Virus (HPV) fusion proteins - useful in vaccines treatment or prophylaxis of HPV induced lesions.
                                                                                                                                                                                                                                                                                                                                  WPI; 1999-190587/16.
                                                                                                                                                                                                                                                                                                                                                                          Bruck C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Streptococcus pneumoniae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chimeric; E6; E7;
                                                                                                                                                                                                                                                                                                                                                                                                                                  22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9910375-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        lesion;
                                                                                   Sequence 1173 BP;
                                                                                                                                                                                                                                                                                                                                                              Lombardo-Bencheikh
                                                                                                                                                                                                                                                                                                                                                                                                      (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                               (Updated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         626 GACATTATTGTTATAGTTTGTATGGAAC 653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 GACATTATTGTTATAGTTTGTATGGAAC 28
                             28;
 1 GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        benign;
                                                                                                                                                                                                                                                                                                                    AAY02637
                                                                                                                 on 17-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                          Cabezon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                              Fig 14; 95pp; English.
                          100.0%;
llarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                  97GB-00017953.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                98WO-EP005285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7; fusion protein; CLYTA; vaccine; malignant; virus; infection; ss.
                                                                                                                                                                                                                                                                                                                                                                           Silva T,
                                                                                   380 A; 229 C; 276 G; 288 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
                             <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                             Delisse AEF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 28;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BP.
                                         Score 28; DB 2;
Pred. No. 0.42;
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                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 2;
                                                                                                                                                                                                                                                                                                                                                                           Gerard
                                                        2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1173;
                                                       Length 1173;
                                                                                                                                                                                                                                                                                                                                                                              OMG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        immunotherapy; tumour;
                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                               0
                                                                                                                                                                                                      : E7
linked to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                               Gaps
                                                                                                                                                                                                                                                                                           for
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RESULT 34
AAF55127
ID AAF59

AAF55127 standard; DNA; 7840

AAF55127;

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ARBSULT 33
ARBD52645
ID ARBD52
XX ARD52
XX ARD52
XX Pusic
XX Fusic
XX Strap
PH Key
FT CDS
FT CDS
FT CDS
FT TYTT
XX IN98
XX WPI;
DR P-PSI
XX WPI;
DR P-PSI
XX Strap
PS Examy
XX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ᅜ
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                                                                                                          Query Match
Best Local S
Matches 28
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                                                                                                                                                                                                                                                                  The invention relates to human Papilloma virus (HPV) fusion proteins, linked to an immunological fusion partner that provides T helper epitopes to the HPV antigen. Vaccine formulations comprising the fusion proteins are useful in the treatment or prophylaxis of HPV induced lesions (papillomas, warts and cervical cancer). HPV 16 (and HPV 18) E6 and E7 proteins (singly, as an E6-E7 fusion or mutatted) were fused to either Haemophilus influenzae D protein (20-127), the C-terminus of Streptococcus pneumoniae Lyth protein (cLyth) or thioredoxin. The present sequence encodes an HPV-Lyth, fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fusion protein; vaccine; papilloma; virucide; uterine cervix tumor; E7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fusion protein cLytA-E6-E7-His/HPV16, DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29-DEC-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AED52645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AED52645 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         04-MAR-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chimeric.
                                                                                                                                                                                                                    Sequence 1173 BP; 380 A; 229 C; 276 G; 288 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22-AUG-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 12; Fig 14; 96pp; English
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Human papilloma virus; HPV; ribozyme; cleavage; E6; E7; keratinocyte; infection; genital warts; neoplasia; cervical cancer; warts; ds.
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                                                                                                                                                                                                                                                                                                               Human
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Methods have been developed for distinguishing a subset of human CC papilloma virus (HPV) that is associated with an increased risk of ceveloping cervical (HPV) that is associated with an increased risk of CC (1) preparing a cervical sample or cervical cancer. The methods involve: CC (1) preparing a cervical sample to expose any HPV-16 E6 gene in the sample and determining if the base at position 350 of the B6 gene (see CC AAT94723 and AAT94724 for comparison) is T or G, where the presence of GC at position 350 is associated with an increased risk of developing CC cervical dysplasia or cervical cancer; and (2) preparing a cervical sample to expose any HPV-16 E6 protein in the sample and determining if CC sample to expose any HPV-16 E6 protein in the sample and determining if CC cervical at position 83 of the protein (see position 90 in AAW35741 CC and AAW35742 for comparison) is Val or Leu, where the presence of Val at CC position 83 that is associated with an increased risk of developing CC cervical dysplasia or cervical cancer. The present sequence represents CC correlates well with Pap scores; 3507:350G ratio. The 350G variant CC correlates well with Pap scores; 3507:350G ratio. The JPV16 samples CC correlates well with Pap scores; 4:2 for CIN I, 1:6 for CIN II; 2:9 for CIN III; 0:3 for cancer. (Updated on 25-MAR-2003 to correct PF field.)
                                                                                                                                                                                                                                                                                                                  Evaluating risk of cervical dysplasia or cervical cancer - variant form of human papilloma virus 16.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TATA_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               polyA_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               93US-00127906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94US-00316239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /p.v.uuct= "L1 major_capsid_protein"
/note= "L1 ORF from 5526 to 7154; putative"
7260. .7265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3559. .7154
/*tag= m
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product= "L2 minor_capsid_protein"
/note= "L2 ORF from 4133 to 5656; putative"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note= "Putative"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    product= "El_replication_protein"
note= "El interrupted ORF from 85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  product= "E7_transforming_protein"
note= "E7_ORF_544_to 858; putative"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note= "E5 ORF from 3863 to 4099; putative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              product= "E5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           product= "E4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         product= "E2 regulatory protein"
note= "E2 ORF from 2725 to 3852;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        332. .3619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10te= "E4 ORF from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .2813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . 858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .5656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .4099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                O
                                                                                                                                                                                                                                                                                        English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3332 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3619;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            putative'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         putative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2813; putative"
                                                                                                                                                                                                                                                                                                                                    by detecting
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RESULT 38
AAV99946
ID AAV99

AAV99946 standard; DNA; 7904

BP.

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RESULT 37
AAX33881
ID AAX3
XX AAX3
AC AAX3
XX AAX3
AC AAX3
XX AAX3
AC 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loc
Matches
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                                                                                                          Matches
                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                               This sequence represents a sequence from the HPV-16 genome. This invention relates to antisense oligonuclectide analogs (ONs) that have a sequence complementary to a sequence of nucleotides 415-445 of human papilloma virus-16 (HPV-16). The antisense ONs can be used to inhibit expression of HPV gene E6/E7 in living cells, preferably human keratinocytes or human cervical cells. They bind to E6/E7 mRNA in the cell, prevent mRNA translation and promote mRNA degradation by intracellular RNase H. They can be used for preventing transformation of living cells by HPV. The antisense ONs are used particularly for inhibiting the growth of cervical tumours. (Updated on 17-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 7904 BP; 2601 A; 1377 C; 1509 G;
                                                                                                                                                                                                                    Sequence 7904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Page 28-32; 40pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              05-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HPV-16; inhibitor; antisense oligonucleotide;
keratinocyte; cervical cell; cervical tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HPV-16 genomic sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17-OCT-2003
25-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New antisense oligonucleotide analogs for inhibiting growth of cervical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO9913071-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus type 16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAX33881 standard; DNA; 7904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (USSH ) US DEPT HEALTH & HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          / Match 100.0%;
Local Similarity 100.0%;
nes 28; Conservative (
                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   333
                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACATTATTGTTATAGTTTGTATGGAAC 28
                                                      GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACATTATTGTTATAGTTTGTATGGAAC 360
GACATTATTGTTATAGTTTGTATGGAAC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alvarez-Salas L;
                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (revised)
(first entry)
                                                                                                                                                                                                                 BP; 2601 A; 1377 C; 1509 G; 2417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97US-00929140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98WO-US018320
                                                                                                                                 100.0%;
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                                                                                                                                    Score 28;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 28; DB 2
Pred. No. 0.42;
Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SERVICES
                                                                                                             Mismatches
                                                                                                                                    0.42;
                                                                                                                                                                BB
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                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                E6/E7 gene; human;
PCR primer; beta-actin; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ٥,
                                                                                                                                                                                                                    T; 0 U;
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                                                                                                                                                             Length 7904;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 7904;
                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                    0 Other;
                                                                                                          0
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                                                                                                          Gaps
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RESULT 39
AAV99952
ID AAV99
XX
AC AAV99
XY
AC AAV99
XX
DT 26-AF
XX
DE Nucle
XX
Humar
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                                                                                                                                                                                                                                                                                                                                                                                This is the nucleotide sequence of the genome of the Human papillomavirus 16 used in the method of the invention involving human involucrin (hINV), in the production of a nucleotide sequence comprising the promoter sequences of the hINV gene. It can be used to direct the expression of nucleic acids in epithelial cells, particularly suprabasal epithelial cells. The nucleotide sequence can be used with human papillomavirus (HPV) oncogenes for producing transgenic animals which display cervical and epidermal hyperplasias as well as cancer of the traches, esophagus, colon, epidermis, anus/rectum, lymph nodes, spleen and lung. These animals provide useful models for the identification of potential carcinogens and co-carcinogens, identification of anti-neoplastic compounds, identification of genes which play a role in neoplastic progression of cancers of the trachea, esophagus, colon, epidermis, anus/rectum, lymph nodes, spleen, lung and cervix. The products can also be used for producing antisense molecules which can be used for reducing or preventing expression of a gene whose expression is controlled by the
                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New isolated promoter sequences of human involucrin gene - used for specific expression of nucleic acids in epithelial cells, particularly for producing transgenic animals for use as models for cancers.
Human; involucrin; hINV; transgenic non-human; promoter;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             suprabasal epithelial cell; human papillomavirus; HPV; transgenic animal;
hyperplasia; cancer; carcinogen; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; involucrin; hINV; promoter; epithelial cell;
                                   Nucleotide sequence of the human papillomavirus 16.
                                                                          26-APR-1999
                                                                                                            AAV99952;
                                                                                                                                            AAV99952 standard; DNA; 7904 BP
                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure, Fig 2; 74pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-MAR-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nucleotide sequence of the human papillomavirus 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAV99946;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1999-070069/06.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (RESE ) RESEARCH CORP TECHNOLOGIES INC
                                                                                                                                                                                                                                      333 GACATTATTGTTATAGTTTGTATGGAAC 360
                                                                                                                                                                                                                                                          1 GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                           28;
                                                                                                                                                                                                                                                                                                                                                                                                                    sequence
                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                7904 BP; 2601 A; 1379 C; 1507 G; 2417 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eckert RL;
                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                         (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97US-00822509
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                                                                       entry)
                                                                                                                                                                                                                                                                                                                          100.0%; Score 28; DB 2; 100.0%; Pred. No. 0.42;
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                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                           Length 7904;
                                                                                                                                                                                                                                                                                                             Indels
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                                                                                                                                                                                                                                                                                                         0,
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ADA03127
ID ADA03
XX ADA03
XX ADA03
XX ADA03
XX D6-NC
XX CYCE
DE HPV E
XX CYCE
XW ATLIC
XW INhill
XW Inhill
XW matric
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XW MOLET
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XW MOLET
XW ALDS;
XW PBOTH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This is the nucleotide sequence of the human papilomavirus 16, involved CC in the method of the invention where the involucrin (hINV) gene is expressed by a transgenic non-human animal. The nucleotide sequence comprises the promoter of the hINV gene which directs the expression of nucleic acids in epithelial cells, particularly suprabasal epithelial cells. In particular when the NS directs the expression of oncogenes such as human papillomavirus (HPV) 16 oncogenes in transgenic animals, the animals display cervical and epidermal hyperplasias as well as cancer of the trachea, esophagus, colon, epidermal, hyperplasias as well as cancer of the trachea, esophagus, colon, epidermis, anus/rectum, lymph nodes, identification of somethial carcinogens and co-carcinogens, colon, epidermis, anus/rectum, lymph nodes, spleen, lung, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
              matrix metalloprotease; membrane metalloprotease; nuclear hormone receptor; transcription factor; nuclear hormone receptor; transcription factor; vascular endothelial growth factor; p53; chromosomal translocation; vascular androgen receptor; diagnosis; cancer; human papilloma virus; leukaemia; androgen receptor; diagnosis; cancer; human papilloma virus; AIDS; BSE; CJD; macular degeneration; angiogenesis; diabetic retinopathy;
                                                                                                                    antidiabetic; antipsoriatic; antirheumatic; antiarthritic; inhibitor repression; inhibitor RNA; apoptosis; necrosis; differentiation; tumour cell division; BCL2 gene family;
                                                                                                                                                                                                                                                                06-NOV-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 7904 BP; 2601 A; 1379 C; 1507 G; 2417 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; Fig 2; 77pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                epithelial cell; suprabasal epithelial cell; epidermal hyperplasia; human papillomavirus;
                                                                                                                                                                                cytostatic; virucide; anti-HIV; neuroprotective; ophthalmological;
                                                                                                                                                                                                                        HPV E6 sequence for inhibitor oligonucleotide repression method.
                                                                                                                                                                                                                                                                                                                                             ADA03127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cancer models.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New transgenic non-human animals - contain nucleic acid the control of the human involucrin gene promoter, used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1999-070068/06.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24-MAR-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (UYOH-) UNIV OHIO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (UYCA-) UNIV CASE WESTERN RESERVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                              333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                            28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                           standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eckert RL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ilarity 100.0%;
Conservative (
                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97US-00822509.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
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Pred. No. 0.42;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
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RESULT 41
ADO58335
ID ADO58
                                                                                                                                                                                                                                                              The invention relates to double-stranded oligonucleotides consisting of CC two complementary strands (Ia; Ib), each having 1-5 unpaired nucleotides, CC at either at their 3' and 5' ends, forming single-stranded overhangs. One CC of (Ia) and (Ib) is complementary to a target sequence, (DNA or RNA). CC that is to be specifically repressed. The oligonucleotides are preferably double stranded inhibitor RNA molecules with a couple of thymdiane bases CC attached at the 3' or 5' ends. The targets are preferably nucleic acids complementary cells and/or inhibit division of such cells. Typical of many complementary cells and/or inhibit division of such cells. Typical of many complementary cells and/or inhibit division of such cells. Typical of many complementary cells and/or inhibit division of such cells. Typical of many complementary cells and/or inhibit division of such cells. Typical of many complementary cells and/or inhibit division of such cells. Typical of many cells alpha transcription factor; sequences encoding various isoforms of the complementary cells and cells. Typical of many cells and for matchive p53; genes that express a cell protein, e.g. where associated with leukaemia, and cells protein, e.g. where associated with leukaemia, and cells conditions caused by expression of a harmful gene or fusion protein, cells and cells of cells and cells of cells and cells. They may also be used in vitro, e.g. BSE or CCD cells of cells
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                                                                                                                                                                                 Matches
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10-APR-2002; 2002FR-00004474.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Fig 6A; 148pp; French
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New double-stranded oligonucleotides, useful e.g. for treatment and diagnosis of tumors, comprise complementary strands with single-str
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-NOV-2002; 2002WO-FR003843
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-MAY-2003
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                                                                                                                                                                                                                                                              Sequence 7904 BP; 2601 A; 1377 C; 1509 G; 2417 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (CNRS ) CNRS
                                                                                                                                                                                                    Local
                                                                                                                           1 GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                 28;
                                                                                                                                                                                                      Similarity
                                                                                                                                                                               100.0%;
ilarity 100.0%;
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Pred. No. 0.42;
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ADO58335 standard; DNA; 7904 BP

Human papillomavirus type 16 full length genomic clone -

SEQ ID

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RESULT 42
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AC ADZ45
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                                                                                                                                                                                                                                                                                                                                   cc system contains a desired foreign gene in virus-like particles consisting co fonly viral structure proteins, wherein the viral structure protein is capsid protein II derived from human papillomavirus (HPV); the foreign cc gene is associated with immunity; and the foreign gene associated with cc immunity is selected from the group consisting of cytokine gene, cell cycle participating gene p21 and anglogenesis inhibitor fik-1. The cm method for producing the gene delivery system containing the desired cc foreign gene comprises the steps of: treating the virus-like particles contained foreign gene into the unit capsomer proteins; adding to react; and removing the reducing agent to refold the unit capsomer correction. This sequence represents Human papillomavirus type 16 (HPV16) L1 capsid protein DNA.
                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention describes a gene delivery system containing a desired foreign gene in virus-like particles. The desired foreign gene can be stably delivered into a cell without being decomposed by nucleases and the desired foreign gene also stable in vivo because the virus-like particles do not have nucleic acids derived from virus. The gene delivery
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene delivery system; virus-like particle; viral structure protein; capsid protein; L1; human papillomavirus; HPV; immunity; cytokine; chemokine; nterleukin-2; IL-2; tumour suppressor gene H19; cell cycle; p21; angiogenesis inhibitor; flk-1; capsomer; HPV16; gene; ds.
                                                                                                                                                                                                                                                                                                        Sequence 7904 BP; 2601 A; 1377 C; 1509 G;
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                             30-JUN-2005 (first entry)
                                                                                           ADZ45647 standard; DNA; 7904
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gene delivery system containing desired foreign gene in virus-like
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                                                                                                                                                                                                                                                           Local Similarity
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                                                                                                                                                                                                           1 GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                            GACATTATTGTTATAGTTTGTATGGAAC 360
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                                                                                                                                                                                                                                                           100.0%; Score 28; DB 11; 100.0%; Pred. No. 0.42;
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                                                                                                                                                                                                                                                                                                           2417
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                                                                                                                                                                                                                                                                                                           T; 0 U; 0 Other;
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RESULT 43
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Best Local
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07-OCT-2003;
13-FBB-2004;
                                                                                                                                                                                                                                                                                                                                                                                                                        The invention comprises a composition for the detection of cancer markers, the composition contains a nucleic acid molecule which is substantially identical to a full length genomic clone of a human papilloma virus (type 11, 16, 18, 51, 56, 58, 66, 70, or 73). The composition of the invention is useful for diagnosing cancer or the risk of developing cancer, in particular cervical, anal, colon and HPV-related cancer. The present DNA sequence represents a human papilloma virus full length genomic clone of the invention.
                                                                     Human papillomavirus. Synthetic.
                                                                                                                   Pre-trans-splicing molecule; PTM; spliceosome; cytostatic; gene immunosuppressive; antimicrobial; gene regulation; gene repair; targeted cell death; genetic disorder; infectious disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of human papilloma virus 1 risk of developing cancer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tumor marker; genome; diagnosis; cancer; uterine cervix tumor;
rectal tumor; colon tumor; ds.
                                                                                                                                                                                           02-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim
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08-JAN-2002; 2002WO-US000416
                                                                                                                                                                   HPV-PTM
                                                                                                                                                                                                                   ABQ73530
                                                                                                                                                                                                                                          ABQ73530 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 7904 BP; 2601 A; 1377 C; 1509 G; 2417 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            related cancer.
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                       11-JUL-2002.
                                               WO200253581-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     composition having a nucleic acid molecule identical to genomic clo human papilloma virus 16, 18 or 51, useful in diagnosing cancer or t k of developing cancer, in particular cervical, anal, colon and HPV-
                                                                                                                                                                                                                                                                                                      333
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                                                                                                                                                                   related oligonucleotide
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M, Yoast S;
                                                                                                        disease;
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2003US-0509205P.
2004US-0543925P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ID NO 1; 169pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2004WO-DK000670
                                                                                                                                                                                          (first
                                                                                                         proliferative disorder;
                                                                                                                                                                                          entry)
                                                                                                                                                                                                                                                                                                                                                                100.0%;
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                                                                                                                                                                                                                                                                                                                                                                              7904;
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                                                                                                                                 cancer;
                                                                                                                                           therapy;
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RESULT 44
ADC37149
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18-DEC-2003

(first

entry)

HPV16

subgenomic fragment DNA sequence.

ADC37149 standard;

DNA;

459

screening cancer chemotherapeutic; antineoplastic activity; carcinogenicity; neuroprotective; neurodegeneration; SV40; Simian Virus 40; adenovirus; human papilloma virus; E6; E7;

E7; cytostatic;

immortalised non-tumourigenic; human Schwann; schwannoma cell line;

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88

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GACATTATTGTTATAGTTTGTATGGAAC 28

GACATTATTGTTATAGTGTGTATGGAAC

5

Query Match Best Local S Matches 27

l Similarity 27; Conserv

Conservative

0,

96.4%;

Score 26.4; DE Pred. No. 1.6; 0; Mismatches

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Gaps

0

Sequence

149

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5. 4

A; 32

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51 T;

0 U; 멂

Other; Length Indels

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The present invention describes a cell (I) comprising pre-trans-splicing complecules (PTMs) (II) which have one or more target binding domains (IIa) complete that target binding of PTM to pre-mRNA, 3' splice region (IIb) that circular target binding of PTM to pre-mRNA, 3' splice region (IIb) that complete site (IIc), spacer region (IId) that separates RNA splice site (Splice site (IIc), spacer region (IId) that separates RNA splice site (Splice to target pyre-mRNA, Optionally, the cell comprises (II) either comprising (A) (IIb) and (IIe); or (B) (IIc), (IId) and (IIe). The cell comprising (A) (IIb) and (IIe); or (B) (IIC), (IId) and (IIe). The cell comprises a recombinant vector expressing (II). (I) has cytostatic, (C immunosuppressive and antimicrobial activities, and can be used in gene therapy. (II) comprising one or more (preferably two or more) (IIa) and (C (IIb)) (or (IIc)), (IId) and (IIe), or (II) comprising either (A) or (B) (C (excluding (IId)), is useful for producing a chimeric RNA molecule in a cell which involves contacting a target pre-mRNA expressed in the cell comprises sequences encoding a toxin or translatable comprises nucleotide sequences comprising exons 1-10 of cystic (fibrosis trans-membrane conductance regulator (CFTR). The chimeric RNA consecute produced using (II) which either comprises (A) or (B) further comprises a nucleotide sequence to be trans-spliced to target pre-mRNA consecute produced using (II) which either comprises (A) or (B) further comprises a nucleotide sequence to be trans-spliced to target pre-mRNA consecuted to target pre-mRN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-JAN-2001;
08-JAN-2001;
08-JAN-2001;
20-APR-2001;
29-AUG-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel cell having pre-trans-splicing molecules with target binding domains that target binding of PTM to pre-mRNA, 3' or 5' splice respacer region, nucleotide sequence to be trans-spliced to target-p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mitchell LG,
Mansfield GS,
                                               exemplification of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2002-566693/60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (INTR-) INTRONN INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fig 52; 229pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; 2001US-00756095.
; 2001US-00756096.
; 2001US-00756097.
; 2001US-00838858.
; 2001US-00941492.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Garcia-Blanco
Chao H;
                                               the present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                    invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Baker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Puttaraju
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          splice region,
) target-pre-
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RESULT 45
AAL54445
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                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                          CC a cell culture of human schwannoma cell, introducing a cell culture of human schwannoma cells, introducing a cC polynucleotide comprising an exogenous immortalising gene into the cells, CC and selecting for immortalised cells that express the exogenous cC immortalising gene and retain phenotypic properties of Schwann or cC schwannoma cells. The invention further comprises: determining the effect CC of a pharmacological agent on human Schwann or schwannoma cells; CC screening cancer chemotherapeutic and antineoplastic activity of an agent; treating neurodegeneration in a patient; and a kit CC intivity of an agent; treating neurodegeneration in a patient; and a kit CC consisting of SV40 (Simian virus 40), adenovirus and human papilloma CC consisting of types 18, 31, 33 or 35, but preferably 16. The immortalised consisting of types 18, 31, 33 or 35, but preferably 16. The immortalised consisting of types 18, 31, 33 or 35, but preferably 16. The immortalised consisting of types 18, 31, 33 or 35, but preferably 16. The immortalised consisting of types 18, 31, 33 or 35, but preferably 16. The immortalised consisting of types 18, 31, 33 or 35, but preferably 16. The immortalised consisting of types 18, 31, 33 or 35, but preferably 16. The immortalised consisting of types 18, 31, 33 or 35, but preferably 16. The immortalised concurvation of human Schwann or schwannoma cell line has cytostatic and neuroprotective activity and be useful in treating disorders by gene concercing carcinogenicity of an agent and antineoplastic activity of an agent, testing carcinogenicity of an agent and active papilloma received the screening carcinogenicity of an agent testing carcinogenicity of an agent testing carcinogenicity of an agent testing carcinogenicity of an agent preferably 16 concerning carcinogenicity of an agent papilloma cell line carcinogenicity of an agent papilloma cell line carcinogenic treating constants and concerning carcinogenic papilloma cell line carcinogenic human schwann or schwannoma cell carcinogenic papill
                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 27; Conserv
                  03-APR-2003
                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                    AAL54445 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to a the production of an immortalised non-tumourigenic human Schwann or schwannoma cell line comprising; pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; SEQ ID NO 1; 29pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            selecting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Producing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2003-722006/68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAR-2002; 2002US-0361528P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-MAR-2003; 2003WO-US006314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human papillomavirus type 16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene therapy; cancer; HPV16; ds
                                                           AAL54445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12-SEP-2003
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                                                                                                                                                                                                                 231
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                                                                                                                                                                                                                                                                                                                                                                                          459
                                                                                                                                                                                                                 GATATTATTGTTATAGTTTGTATGGAAC 258
                                                                                                                                                                                                                                          GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Li X;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       an immortalized non-tumorigenic human Schwann or schwannoma for treating cancer or neurodegenerative disorder comprises for immortalized cells that express the exogenous immortalizing
                                                                                                                                                                                                                                                                                                                                                                                                                                   cell line of the invention.
                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                       BP; 157 A; 71 C; 100 G; 131 T; 0 U; 0 Other;
                  (first entry)
                                                                                                    DNA; 477
                                                                                                                                                                                                                                                                                                                     94.3%;
                                                                                                                                                                                                                                                                                                   0; Mismatches
                                                                                                                                                                                                                                                                                                                        Score 26.4;
Pred. No. 1.6
                                                                                                                                                                                                                                                                                                                                            10;
                                                                                                                                                                                                                                                                                                                                            Length 459;
                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                   0
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RESULT 46
ARA51113
ID ARA51
XX ARA51
AC ARA51
XX 11-AU
XX 11-AU
XX 11-AU
XX Delix
KW injuz
KW gyneo
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                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mRNA sequence of the gene. The method is useful for the selective post-
transcriptional silencing of an exogenous gene of viral origin (e.g. an
oncogene or human papilloma virus (HPV) gene) in a mammalian cell. The
method or the siRNA is particularly useful for treating cancer, human
cervical cancer, human immunodeficiency virus (HIV), smallpox, flu,
common cold, or a disease caused by a HPV (e.g. genital warts, cervical
cancer, penile cancer, malignant squamous cell carcinomas or verruca
vulgaris). An siRNA construct or vector is useful for use as a medicament
for the diseases mentioned. The polynucleotide sequence of the invention
can be used to treat disorders by gene therapy. This polynucleotide
sequence represents the DNA of a HPV siRNA sequence of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Virucide; cytostatic; anti-HIV; dermatological; small interfering RNA; selective post-translational silencing; siRNA; oncogene; genital wart; human papilloma virus; HPV gene; cancer; human cervical cancer; HIV; smallpox; flu; common cold; cervical cancer; penile cancer; malignant squamous cell carcinoma; verruca vulgaris; gene therapy; ds.
 Delivery mechanism; gene therapy; cytostatic; vulnerary; virucide, injury; infection; cancer; gastrointestinal disease; gyneocology and obstetrics; tumor; colorectal tumor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to a novel method for selective post-translational silencing in a mammalian cell of the expression of an exogenous gene of viral origin. The method comprises introducing into the cell a small interfering RNA (siRNA) construct that is homologous to a part of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Selective post-transcriptional silencing of an exogenous viral gene (e.g. human papilloma virus (HPV) E6), for treating e.g. cancer, comprises using a small interfering RNA (sirNA) construct homologous to an mRNA of
                                                                         Human papillomavirus type 16 E6/E7 gene fragment,
                                                                                                                 11-AUG-2005
                                                                                                                                                                                             AEA51113 standard; DNA; 477
                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 477 BP; 167 A; 75 C; 104 G; 131 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17-JUL-2001; 2001GB-00017358.
14-JAN-2002; 2002GB-0000688.
17-JUN-2002; 2002GB-00013855.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human papilloma virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 11; Fig 11; 44pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2003-221850/21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO2003008573-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HPV16 E6 siRNA derived DNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (MILN/) MILNER A J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-JUL-2002; 2002WO-GB003300
                                                                                                                                                                                                                                                                                          251
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                                                                                                                                                                                                                                                                                                                                                                  27;
                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                            GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                        GACATTATTGTTATAGTGTGTATGGAAC 278
                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                  94.3%;
                                                                                                                                                                                             В₽
                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                  Score 26.4;
Pred. No. 1.
                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                  .6
                                                                                                                                                                                                                                                                                                                                                                                                      DB 10;
                                                                                                                                                                                                                                                                                                                                                                ۲,
                                                                             SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                    Length
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                                                                                                                                                                                                                                                                                                                                                                                                        477;
                                                                                                                                                                                                                                                                                                                                                                0;
                                                                               17
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Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present invention relates to a method and composition comprising a transfer agent and a solid or colloidal carrier medium for delivering biological agents into cells. The invention is useful for the treatment of cancer, tumor, carcinoma of cutaneous, squamous or cervical epithelia and colorectal carcinoma, wounds, burns and scars. The invention is also useful in gene therapy. The present sequence is the human papillomavirus type 16 86/87 gene fragment. This sequence is useful in a method for treating carcinomas.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Composition useful for delivering an agent into a cell comprises the agent, a transfer agent and a solid or colloidal carrier medium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-NOV-2003; 2003GB-00027409.
05-MAR-2004; 2004US-0549919P.
                                                           24-APR-2002;
                                                                                                                                                                                  Homo
                                                                                                                                                                                                       human papillomavirus; cervix cancer; ds
                                                                                                                                                                                                                               Human
                                                                                                                                                                                                                                                                              ADF31984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure; SEQ ID NO 17; 56pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2005-405310/41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Milner
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      09-JUN-2005.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO2005051431-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     uterine cervix tumor; squamous cell carcinoma; neoplasm; E7 gene; ds;
                                    24-APR-2002; 2002CN-00117143
                                                                                   27-NOV-2002.
                                                                                                           CN1381583-A.
                                                                                                                                                                                                                                                        12-FEB-2004
                                                                                                                                                                                                                                                                                                      ADF31984 standard; DNA; 543 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-NOV-2004; 2004WO-GB004979
             (ONCO-) INST ONCOLOGY TUMOR HOSPITAL CHINESE ACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (MILN/) MILNER A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene.
                                                                                                                                                                               sapiens
                                                                                                                                                                                                                                                                                                                                                               251
                                                                                                                                                                                                                              papillomavirus fusion gene encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   papillomavirus
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                                                                                                                                                                                                                                                                                                                                                                                      μ
                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                              GACATTATTGTTATAGTGTGTATGGAAC 278
                                                                                                                                                                                                                                                                                                                                                                                      GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                           2002CN-00117143
                                                                                                                                                                                                                                                                                                                                                                                                                                                          BP; 167 A; 75 C; 104 G; 131 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                       (first
                                                                                                                                                         Location/Qualifiers
                                                                                                                                               .543
                                                                                                                                                                                                                                                       entry)
                                                                                                                                                                                                                                                                                                                                                                                                                       94.3%;
                                                                                                                                   ø
                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                       Score 26.4; DB 14;
Pred. No. 1.6;
                                                                                                                                                                                                                                                                                                                                                                                                                      Pred.
                                                                                                                                                                                                                               sequence
                                                                                                                                                                                                                                                                                                                                                                                                            1;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 477;
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                                                                                                                                                                                                                                                                                                                                                                                                             0
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RESULT 48
ADO44067
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Best Local Similarity
Matches 27; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                               E6 protein; E7 protein; fusion protein; HPV16; HPV-associated cancer; cervical cancer; immune response; lower gastrointestinal tract cancer and cancer; reproductive system cancer; penile cancer; vulvar cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 543 BP; 185 A; 89 C; 118 G; 151 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present invention relates to human papillomavirus E6/E7 fusion gene, its preparing process, the process for configuring the efficient expression carrier containing the gene and resultant expression carrier, the fusion protein prepared from the gene, and the application of the fusion gene and expression protein to medical science and medicine to treat cervix cancer are disclosed. The present sequence represents the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human papillomavirus {\tt E6/E7} fusion gene and its efficient expression carrier and fusion protein vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zhao
                                                                                                                                                                                                                                                                                                                                                              Human papillomavirus type 16.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADO44067;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADO44067 standard; DNA; 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 3; SEQ ID NO 1; 16pp; Chinese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2003-258260/26.
                                  New polypeptide comprising human papillomavirus E6 and E7 polypeptides, useful for treating or preventing human papillomavirus (HPV)-associated cancers, e.g. cervical cancer.
                                                                                                                                Smith L,
                                                                                                                                                                                     03-OCT-2002; 2002US-0415929P
                                                                                                                                                                                                                02-OCT-2003; 2003WO-US031726
                                                                                                                                                                                                                                          15-APR-2004.
                                                                                                                                                                                                                                                                   WO2004030636-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nucleotide sequence of an E7E6 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P-PSDB; ADF31985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       human papillomavirus fusion gene encoding sequence
                                                                                          P-PSDB; ADO44066
                                                                                                                                                            (AMHP ) WYETH HOLDINGS CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ö
                                                                                                        2004-316328/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      251 GACATTATCGTTATAGTTTGTATGGAAC 278
                                                                                                                                                                                                                                                                                                                                                                                                      88
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                 Cassetti MC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                              /*tag=
                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                               /product= "E7E6 fusion protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     94.3%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ٥,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 26.4;
Pred. No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 543;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                   cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
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Example 1; Page 73; 101pp; English

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RESULT 49
AD044065
ID AD044
XX AD044
XX AD044
XX B6 P1
IS-JU
DE Nucle
XX B6 P1
KW Gervi
KW anal
KW gene;
XX Synth
XX W020(
XX Synth
XX W020(
XX IS-All
XX IS-All
XX WPI
PT US-PS
XX WPI
PT US-PS
XX WPI
PT US-PS
XX New
PT US-PS
XX The
CCC Poly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  E6 protein; E7 protein; fusion protein; HPV16; HPV-associated cancer; cervical cancer; immune response; lower gastrointestinal tract cancer; anal cancer; reproductive system cancer; penile cancer; vulvar cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human papillomavirus type 16 Synthetic.
                                                                                                                              New polypeptide comprising human papillomavirus E6 and useful for treating or preventing human papillomavirus cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                        Smith L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nucleotide sequence of a fusion protein designated E6E7PentM
                                                                                                                                                                                                                         P-PSDB;
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                                                                                                                                                                                                                                                                                                                                                                                 03-OCT-2002; 2002US-0415929P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 747 BP; 247 A; 132 C; 166 G; 202 T; 0 U;
                                                                                                                                                                                                                                                                                                                                    (AMHP ) WYETH HOLDINGS
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                                                                                                                                                                                                                           ADO44064.
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                                                                                                                                                                                                                                                                                          Cassetti MC;
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1. .747
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/product= "E6E7PentM fusion protein"
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                                                                                                                                                       E7 polypeptides, (HPV)-associated
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The present sequence encodes a fusion protein, polypeptides from human papillomavirus type 16 protein is designated E687PentM, and comprises

comprising E6 and E7 (HPV16). The fusion an E6 amino terminus

E7

amino terminus

The present sequence encodes an E6E7 fusion protein, comprising wild type E6 and E7 polypeptides from human papillomavirus type 16 (HPV16). The

Example 1; Page 68; 101pp; English.

for treating or preventing , e.g. cervical cancer.

Page 71; 101pp; English.

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RESULT 50
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (where residues 63 and 106 have been replaced with glycine) and an E7 carboxy terminus (where residues 24, 26 and 91 have been replaced with glycine). E6E7PentM is representative of fusion proteins of the invention. The specification describes human papillomavirus E6 and E7 polypeptides, where the E7 polypeptide has mutations at any one or more of the amino acids corresponding to amino acids 24, 26 or 91 of the sequence given in ADO44073 and the E6 polypeptide has no mutations or has
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus type 16. Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADO44061;
                                                                                                                                                            WPI; 2004-316328/29.
                                                                                                                                                                                         Smith L,
                                                                                                                                                                                                                                                          03-OCT-2002; 2002US-0415929P
                                                                                                                                                                                                                                                                                                                           15-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E6 protein; E7 protein; fusion protein; HPV16; HPV-associated cancer; cervical cancer; immune response; lower gastrointestinal tract cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nucleotide sequence of an E6E7 fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 747 BP; 246 A; 132 C; 171 G; 198 T; 0 U; 0 Other;
                                                                                            New polypeptide comprising human papillomavirus E6 and E7 polypeptides, useful for treating or preventing human papillomavirus (HPV)-associated
                                                                                                                                           P-PSDB; ADO44060.
                                                                                                                                                                                                                                                                                          02-OCT-2003; 2003WO-US031726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cervical cancer; immune response; lower gastrointestinal tract cancer;
anal cancer; reproductive system cancer; penile cancer; vulvar cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADO44061 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the reproductive system, including penile and vulvar cancer.
                                                                                                                                                                                                                           (AMHP ) WYETH HOLDINGS CORP.
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specification describes human papillomavirus 86 and 87 polypeptides, where the 87 polypeptide has mutations at any one or more of the amino acids corresponding to amino acids 24, 26 or 91 of the sequence given in ADO44073 and the 86 polypeptide has no mutations or has mutations at any one or more of the amino acids corresponding to amino acids 63 or 106 of there sequence given in ADO44072. The polypeptides of the invention are useful for treating or preventing human papillomavirus (HPV)-associated cancers, such as cervical cancer. The fusion proteins and nucleic acids encoding the fusion proteins are useful for generating immune responses against HPV. They are also useful for treating lower gastrointestinal tract cancers, e.g. anal cancer, and other cancers of the reproductive system, including penile and vulvar cancer.

Sequence 747 BP; 247 A; 132 C; 166 G; 202 T; 0 U; 0 Other;

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BG021561 dG32D09.x
AQ829979 HS 4828_B
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fc2102.e Rose Petals
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                                                                                                                                                                                                                                                                                                                           Faculty of Agricultural, Food and Environmental Quality Sciences. The Hebrew University of Jerusalem P.O. Box 12, Rehovot, 76100, Israel Tel: 972 8 9489 683

Fax: 972 8 9468 265
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primer: T3 forward.
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                              /organism="Rosa hybrid cultivar"
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/strain="gragrant_Cloud"
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BQ480236
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fz17h05.y
fz18h06.y
fy85a11.y
fy85a11.y
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RESULT 2
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                                           RESULT 3
AQ778171
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Best Local S
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AQ778171
HS_3206_A1_B05_MR_CIT
sapiens genomic clone
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Opisthorchis viverrini
Eukaryota, Metazoa; Platyhelmint
Opisthorchiida; Opisthorchiata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DN832021

PO26 Opisthorchis viverrini lambda
viverrini cDNA 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27;
                                                                                                                                                                                                                                                                                                                                                                                                                      Tel: 1 504 988 4645
Fax: 1 504 988 6686
Email: paul.brindley@tulane.edu
                                                                                                                                                                                                                                                                                                                                                                                   Seq prime:
POLYA=Yes
                                                                                                                                                                                                                                                                                                                                                                                             Insert Length: 486 Std Error: 0 Seq primer: 5' TriplEx sequencing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1430 Tulane Avenue, New Orleans,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Department of Tropical Medicine Tulane University, Health Science
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unpublished (2005)
Contact: Brindley, PJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Opisthorchis viverrini
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Expressed sequence tags
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                                                                                                                                                          Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone="fc2102.e"
/tissue_type="Petals"
/dev_stage="Young open flower at stage four"
/clone_lib="Rose Petals (Fragrant Cloud) Lam
Express_Library"
                                                                                                                                                                                                                            /sex="hermaphrodite"
/tissue_type="whole body"
/dev_stage="adult"
/clone_lib="Opisthorchis viverrini
Library"
                                                                                                                                                                                                                                                                                                /organism="Opisthorchis viverrini"

/mol_type="mRNA"
/strain="Khon Kaen Province, Thail

/db_xref="taxon:6198"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="Vector: pBKCMV; Site_1: EcoRI; Site_2: XhoI"
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88.9%;
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Pred.
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Pred. No. 5
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horchiata; Opisthorchioidea; Opisthorchiidae;
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rleans, LA 70112,
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  NA linear GSS 02-AUG-1999
Genomic Sperm Library D Homo
=9 Row=C, genomic survey
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AQ778171
AQ778171.1
GSS.
                                                                                                                                     Sorghum bicolor (sorghum)
Sorghum bicolor
Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD
clade; Panicoldeae; Andropogoneae; Sorghum.

1 (bases 1 to 658)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 GACATTATTGTTATAGTTTTGTATGGAAC 28
                                                   Bedell, J.A., Budiman, M.A., Nunberg, A., Citek, R.W., Robbins, D., Jones, J., Flick, E., Rohlfing, T., Fries, J., Bradford, K., McMenamy, J., Smith, M., Holeman, H., Roe, B.A, Wiley, G., Korf, I.F., Rabinowicz, P.D., Lakey, N., McCombie, W.R., Jeddeloh, J.A. and
                                                                                                                                                                                                                                                                                        CW302859.1
                                                                                                                                                                                                                                                                                                               mequence.
                                                                                                                                                                                                                                                                                                                                                  CW302859 658 bp DNA linear GSS 31-OCT-2004 104 787 11464939 116 35676 078 Sorghum methylation filtered library (LibID: 104) Sorghum bicolor genomic clone 11464939, genomic survey
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BAC end Web Server: http://www.htsc.washington.edu
Plate: 3206 row: C column: 9
Seq primer: M13 Reverse
Class: BAC ends
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tel: (206) 616-3618
Fax: (206) 616-3887
Email: jwallace@u.washington.edu
Clones may be purchased from Research Genetics (info@resgen.com).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Mahairas GG, Wallace JC,
High Throughput Sequencing Center
University of Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence-tagged connectors: A sequence approach to mapping scanning the human genome proc. Natl. Acad. Sci. U.S.A. 96 (17), 9739-9744 (1999)
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(bases 1 to 499)

Mahairas,G.G., Wallace,J.C., Smith,K., Swartzell,S.,
Mahairas,G.G., Wallace,J.C., Smith,K., Swartzell,S.,
K.-1.er,A., Shaker,R., Furlong,J., Young,J., Zhao,S.,
Sorghum genome sequencing by methylation filtration PLOS Biol. 3 (1), e13 (2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bukaryota;
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                                        Martienssen, R.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       401 Queen Anne Avenue North, Seattle,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10449764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mammalia; Butheria;
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nilarity 85.7%;
Conservative
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Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone_lib="CIT Approved Human Genomic Sperm Library D"
/note="Organ: sperm; Vector: pBeloBAC11; BAC Clones in
E-Coli DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /mol_type="genomic DNA"
/db_xref="taxon:9606"
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Eutheria; Euarchontoglires; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                            GI:55019047
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Pred. No. 9.7e+02;
0; Mismatches 4
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Actinopterygii; Neopterygii; Teleostei; Ostariophysi;
Cypriniformes; Cyprinidae; Danio.

El (bases 1 to 261)

Clark, M., Johnson, S.L., Lehrach, H., Lee, R., Li, F., Marra, M.,
Eddy, S., Hillier, L., Kucaba, T., Martin, J., Beck, C., Wylie, T.,
Underwood, K., Steptoe, M., Theising, B., Allen, M., Bowerrs, Y.,
Underwood, K., Steptoe, M., Theising, B., Allen, M., Bowerrs, Y.,
Person, B., Swaller, T., Gibbons, M., Pape, D., Harvey, N., Schurk, R.,
Ritter, E., Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, R.,
Watersteon, R. and Wilson, R.,
Watersteon, R. and Wilson, R.,
Watersteon, R. and Wilson, R.,
Washu Zebrafish EST Project 1998

Unpublished (1998)
Contact: Stephen L. Johnson
Washington University School of Medicine
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   559
cDNA Library construction by: Joe Barnes and Steve Johnson. DNA Sequencing by: Washington University Genome Sequencing Center Clone distribution: Research Genetics web address: http://www.researchgenetics.com/ putative full length read The vector to vector length is 262 rebrafish identity (p-value greater than 1e-99) found to: gi|3461292|gb|AI105787|AI105787 db03d09_pl ZF adult heart library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Orion Genomics, LLC
4041 Forest Park Ave,
Tel: 314 615 6979
Fax: 314 615 5975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   261 bp fw29c06.yl Zebrafish C32 14 somite IMAGB:5566067 5', mRNA semienne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N
                                                                                                                                                                                          Tel: 314 286 1800
Fax: 314 286 1810
Email: zbrafish@watson.wustl.edu
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plate: 787 row: d column: 1
Seq primer: T3 Reverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Danio rerio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Danio rerio (zebrafish)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Class: methylation filtered
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Bedell JA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15660154
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAATTATTTTATAGTTTGTCTGGAA 584
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="Organ: leaf; Vector: pBCSK(-); Site_1: HincII; DNA prepared from purified nuclei was randomly sheared, end-repaired, size fractionated to enrich for the 0.5 to 5 kb fraction, ligated into HincII-digested pBCSK(-) vector and electroporated into E. coli cells. This is a methylation filtered library."
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cultivar="ATx623"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GI:17513963
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Pred. No. 1.4e
0; Mismatches
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BM531805
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Best Local S
Matches 23
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fx91d07.yl Zebrafish SJD 2 day e.
IMAGE:5630652 5', mRNA sequence.
BM331805
                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes; Cyprinidae; Danio.

1 (bases 1 to 324)

1 (bases 1 to 324)

1 (clark, M., Johnson, S.L., Lehrach, H., Lee, R., Li, F., Marra, M., Eddy, S., Hillier, L., Kucaba, T., Martin, J., Beck, C., Wylie, T., Underwood, K., Steptoe, M., Theising, B., Allen, M., Bowers, Y., Person, B., Swaller, T., Gibbons, M., Pape, D., Harvey, N., Schurk, R., Ritter, B., Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, R., Waterston, R. and Wilson, R.
                                                                                                                                    WashU Zebrafish EST Project 1998
Unpublished (1998)
Contact: Stephen L. Johnson
Washington University School of Medicine
Washington Park Parkway, Box 8501, St. I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cDNA Library construction by: Joe Barnes and Steve Johnson. DNA Sequencing by: Washington University Genome Sequencing Center Clone distribution: RessourcenZentrumPrimarDatenbank, Berlin, Germany
                                                              Tel: 314 286 1800
Fax: 314 286 1810
Email: zbrafish@watson.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Danio rerio (zebrafish)
Danio rerio
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Seq primer:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /Clone lib="Zebrafish C32 14 somite embryo" /note="Yector: pAMP1; Site 1: EcoRI; Site 2: Not strand cDNA synthesis was primed using oligo-dT magnetic beads with an additional primer 5'-gcggccgctaatacgactcacta-tagg-3'. Second strasynthesis was a 3-cycle PCR using the primers 5'-ggccgctaatacgactcactatag-3'
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/lab_host="DH10B"
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|mol_type="mRNA"
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Pred. No. 2.3e+03;
0; Mismatches 4
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                                                                                                                                            St. Louis, MO 63108,
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o rerio cDNA clone
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DN847201/c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23;
                                                                                                                    preimplantation embryos
Unpublished (2005)
Contact: Olsaker, I.
Dept. of Basic Sciences and Aquatic Medicine
Norwegian School of Veterinary Science
P.O. Box 8146 Dep, NO-0033 Oslo, Norway
Tel: +47 22964758
Fax: +47 22964758
                                         Email: ingrid.olsaker@veths.no
Single pass sequencing. Bases called and trimmed with Phred. Vector
pCMV-PCR identified with cross_match. EST name is Clone.g-T7
                                                                                                                                                                                                                                                                                                                      Pecora; Bovidae, Bovinae; Bos.
1 (bases 1 to 499)
Olsaker, I. and Laerdahl, J.K.
Production of ESTs from a cDNA library of flushed bovine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  499 bp mRNA linear EST 20 KECB31-081.9-T7 NVH bovine early embryo cDNA library KECB taurus cDNA 3', mRNA sequence.
DN847201
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 GACATTATTGTTATAGTTTGTATGGAA 27
                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bos taurus (cattle)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DN847201.1 GI:62806361
EST.
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                         primer: T7
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//Clone = "Vector: pampl; Site 1: EcoRI; Site 2: NotI; First
//note="Tector: pampl; Site 1: EcoRI; Site 2: NotI; First
strand cDNA synthesis was primed using ollgo-dT on
magnetic beads with an additional primer
5'-gcggcgctaatacgactcacta-taggg-3'. Second strand
synthesis was a 3-cycle PCR using the primers
5'-gcgcgctaatacgactcactateg-3' and
5'-gagcgcttaatacgactcactateg-3' and
5'-aagcagtggtaaccacgcagagtacttt-tttttttttvn-3'. cDNA
was subsequently amplified in a 7-cycle PCR with the
following primers: 5'-ggccgctaatacgactcactatag-3' and
5'-aagcagtggt-aaccacgcag. Deoxy-UMP adaptors were added in
a third PCR (5 cycles) and the primers
', tall
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5'-caucaucaucauggccgctaatacgactcactataggg-3' and 5'-cuacuacuacuaagcagtggtaacaacgcagagtac-3'. Ends were treated with uracil DNA glycosylase and product with 3' overhangs was annealed to complementary ends of pAMP1. Insert can be excised using EcoRI and NotI. Library constructed by Joe Barnes and Steve Johnson (Washington University)."
Location/Qualifiers
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|mol_type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tissue_type="whole embryo,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    clone="IMAGE:5630652"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            _xref="taxon:7955"
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85.2%;
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RESULT 9
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KEYWORDS
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BX977778
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wmi03-4ms2-c01
DT598349
                                                                                                                                                                                           1 GACATTATTGTTATAGTTTGTATGGAA 27
                                                                                                                                                                                                                                           23;
                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (20-FEB-2004) Sanger Centre, Hinxton, CB10 1SA, UK. http://www.sanger.ac.uk/MICER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 (bases 1 to 692)
Adams,D.J., Biggs,P.J., Cox,A.V.,
Jonkers,J., Smith,J., Plumb,R.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eut
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BX977778.1 GI:49709201
GSS; genome survey sequence; MICER.
Mus musculus (house mouse)
Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BX977778 692 bp DNA linear Reverse strand read from insert in 5'HPRT insertion chromosome engineering clone WHPN317a23, genomic sur
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23;
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Direct Submission
Welwitschia mirabilis
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                                                                                                                                                                                                                                           Conservative
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/clone lib="NVH bovine early embryo CDNA library KECB"
/note="Vector: pcWv-PCR; The library was constructed using
the Stratagene PCR CDNA Library Construction Kit
(Strategene Cloning Systems, USA) according to the
suppliers protocol. This includes PCR amplification of
cDNA with adapter-based primers followed by
ligation-independent directional cloning into the vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and Bradley, A.
                                                                                                                                                                                                                                                                                                                       /mol_type="genomic DNA"
/db_xref="taxon:10090"
/clone="MHPN317a23"
/clone_lib="MHPN"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /mol_type="mRNA"
/strain="NRF Norwegian Red"
/strain="NRF Norwegian Red"
/db_xref="taxon:9913"
/tissue_type="20 flushed preimplantation embryos"
/tissue_type="20 flushed preimplantation embryos"
                                                                                                                                                                                                                                                                                                                                                                                        organism="Mus musculus"
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                                GI:74109622
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85.2%;
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85.2%;
                                                         Wmi03 Welwitschia mirabilis
5', mRNA sequence.
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                                                                                                                                                                                                                                                          Score 20.6; DB 14
Pred. No. 2.3e+03;
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Pred. No. 2.3e+03;
0; Mismatches 4
                                                                                                                                                                                                                                                                        DB 14;
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Taylor,R.G.,
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Nishijima, I., Y
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                                                                                                                                                                                                                                                                                                                                                                                            546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
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Xenopodinae; Xenopus; Silurana.

1 (bases 1 to 848)

1 (bases 1 to 848)

Richardson,P. Lucas,S., Rokhsar,D., Detter,J.C., N
Brokstein,P. and Lindquist,B.A.

DOB Joint Genome Institute Xenopus tropicalis EST g
Unpublished (2004)

Other_ESTs: JGI_CAAM7770.rev
Contact: Lindquist,B.A., Richardson,P.

DOB Joint Genome Institute

2800 Mitchell Drive, Walnut Creek, CA 94598, USA
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Gnetophyta; Gnetopsida; Welwitschiales;
Welwitschiaceae; Welwitschia.

1 (bases 1 to 836)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Xenopus tropicalis (western clawed frog)
Xenopus tropicalis
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CX897969

JGI CAAM7770.fwd NIH XGC_tropTe3 Xenopus tropicalis
IMAGE:7681489 5', mRNA sequence.
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The sequence provided is trimmed of vector and low quality regions.
Full sequence and original trace file are available from the Plant
Genome Network website (http://pgn.cornell.edu)
Plate: wmi03-4ms2 row: c column: 01
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Oppenheimer,D., Frohlich,M., Doyle,J., Tanksley,S., Webb,M.,
Leebens-Mack,J., McNeal,J., Landherr,L., Ilut,D. and Wall,K.
Generation of ESTs from early flower buds of Welwitschia mirabilis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Penn State University
208 Mueller Laboratory,
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/note="Vector: pBluescript; Site 1: EcoRI; Site 2: Xho1;
/note="Vector: pBluescript; Site 1: EcoRI; Site 2: Xho1;
/note="Wector: pBluescript; Site 1: EcoRI; Site 2: Xho1;
/note="Wector: pBluescript; Site 2: Xho1;
/note 3: Xho1;
/note 3: Xho1;
/note 3: Xho1;
/note 4: Xho1;
/note 5: Xho1;
/note 7: Xho1;
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Pred. No. 2
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PA 16802, USA
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                                                                                                                                                                                                                                                                                                                                     Detter, J.C.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                         906 bp DNA linear GSS 05-JUL-200 Chromosome engineering clone MHPN42e12, genomic survey sequence. CR065011 GI:49798601 GSS; genome survey sequence; MICER. Mus musculus (house mouse)
Mus musculus (house mouse)
Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  244 ACATTATTGTTATACTTTGTATTCATC 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Naming Conventions: EST name is generated by the concatenation of the JGI Clone Id and the direction of sequencing. The suffix '.fwd' indicates a forward sequencing read of the insert. It does not necessarily reflect the orientation of the insert.

Plate: CAAM 0081 row: c column: 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    University of California, Berkeley:
http://tropicalis.berkeley.edu/home)
cDNA Library Preparation: DOB Joint Genome Institute:
                                                                                                                                                           Adams, D.J., Biggs, P.J., Cox, A.V., Jonkers, J., Smith, J., Plumb, R.W., Rogers, J. and Bradley, A.
                                                                                                                                                                                                                                      Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 ACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           http://www.jgi.doe.gov
DNA Sequencing: DOE Joint Genome Institute: http://www.jgi.doe.gov
Clone Distribution: I.M.A.G.E. Consortium/LLNL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Email: cdna@jgi-psf.org
Tissue Procurement: Timothy Grammer (Richard M. Harland Laboratory,
                                                                                                                     Submitted (20-FEB-2004) Sanger Centre, Hinxton,
                                                                                                                                          Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       High quality sequence stop: 767.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Mus musculus"
/mol_type="genomic DNA"
/db_xref="taxon:10090"
                                                                           Location/Qualifiers
                                                                                                UK. http://www.sanger.ac.uk/MICER
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Xenopus tropicalis"
|mol_type="mRNA"
|db_xref="taxon:8864"
|clone="IMAGE:7681489"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 73.6%; Score 20.6; DB 9; Length 848; 85.2%; Pred. No. 2.3e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                              Davies,R.M.,
Taylor,R.G.,
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Nishijima, I.,
                                                                                                                       Cambridgeshire,
                                                                                                                                                                                                     der Weyden, L.,
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CLJ19-B11.x1d-t SHGC-CLJ Gasterosteus aculeatus cDNA
CLJ19-B11 3', mRNA sequence.
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Expressed sequence tags from Gasterosteus Unpublished (2003)

Contact: Grimwood, Jane
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High quality sequence stop: 899
Location/Qualifiers
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Plate: 19
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Fax: 650 320 5801
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975 S California Ave, Palo Alto, CA 94
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                                                                                                                                     /CLOUDE TOWNSTOLDS:
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http://www.openbiosystems.com/cdna_library_construction_faq.php#8 The primary library was transformed and amplified in DH10B (Tl phage resistant) bacteria. Clones available
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /sex="mixed male and female"
/tissue type="whole larva"
/dev stage="21 day old larvae collected at Swarup
/dev stage="21 day old larvae collected at Swarup
/J. Embryol. Exp. Morphol 6: 373-383.1958)"
/lab_host="DH10B (T1 phage resistant)"
/clone_lib="SHGC-CLJ"
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/mol type="mRNA"
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Pred. No. 2.3e+03;
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5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (02-AUG-2001) Asao Fujiyama, The Institute of Physical and Chemical Research (RIKEN), Genomic Sciences Center (GSC); 1-7-22 Suehiro-chou, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:chimpbes@gsc.riken.go.jp, URL:http://hgp.gsc.riken.go.jp/, Tel:81-45-503-9111, Fax:81-45-503-9170)
Clones are derived from the chimpanzee BAC library PTB This BAC end was generated during the R&D process and may have higher chance of
                                                                                                                                                               21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 GACATTATTGTTATAGTTTGTATGGAA 27
BW053630 713 bp mRNA linear EST 19-OCT-2002 BW053630 Nori Satoh unpublished cDNA library, blood cells Ciona intestinalis cDNA clone cibd079b12 5', mRNA sequence.
                                                                                                                                   σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pujiyama,A., Hattori,M., Toyoda,A.,
Totoki,Y., Watanabe,H. and Sakaki,Y.
BAC end sequences of Library PTB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HALLIBLE DNA, clone: PTB-117P07.F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fujiyama,A., Hattori,M., Toyoda,A., Totoki,Y., Watanabe,H. and Sakaki,Y. Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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AG111813.1
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http://www.openbiosystems.com/stickleback"
                                                                                                                                                                                                                                      /cell_type="lymphoblast"
/clone_lib="PTB Chimpanzee Male BAC Library"
                                                                                                                                                                                                                                                                                                               /organism="Pan troglodytes"
/mol_type="genomic DNA"
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1. .677
                                                                                                                                                                                                                                                                                db_xref="taxon:9598"
clone="PTB-117P07.F"
                                                                                                                                                                                                                                                                     sex="male"
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85.2%;
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95.5%;
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Pred. No. 2.7e+03;
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Pred. No. 2.3e+03;
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ACCESSION
VERSION
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Eukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;
Phlebobranchia; Cionidae; Ciona.

1 (bases 1 to 724)
Satou,Y., Shin-i,T., Kohara,Y. and Satoh,N.
Expressed genes in Ciona intestinalis (2002c)
Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21;
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1 (bases 1 to 713)
Satou, Y., Satake, M., Azumi, K., Nonaka, M., Shin-i, T., Ko Satoh, N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BW206337
                                                                                                                                                                                                                                                             Kyoto University
Sakyo-ku, Kyoto, Kyoto 606-8502,
                                                                                                                                                                                                                                                                                                                          Contact: Nori
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BW206337.1 GI:24620951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BW206337 Nori Satoh unpublished cDNA library, cleaving intestinalis cDNA clone cicl093n06 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Email: satch@ascidian.zool.kyoto-u.ac.jp.
Location/Qualifiers
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Sakyo-ku, Kyoto, Kyoto 606-8502,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Contact: Nori Satoh
Department of Zoology
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Ciona intestinalis"
/mol_type="mRNA"
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/clone="cibd079b12"
/tissue_type="blood_cells"
/clone_lib="Nori_Satoh_unpublished_cDNA_library,_blood_cells"
/clone_lib="Nori Satoh unpublished cDNA library, cleaving embryo"
                 /tissue_type="whole body"
/dev_stage="cleaving embryo"
/clone_lib="Nori Satoh unpub
                                                                                                 /organism="Ciona intestinalis"
/mol_type="mRNA"
/db_xref="taxon:7719"
                                                                                  /clone="cicl093n06"
                                                                                                                                                                                  ocation/Qualifiers
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Pred. No. 2.7e+03;
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BF820181
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Matches 21; Conserv
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Dias Neto, E., Garcia Correa, R., Verjovski-Almeida, S., Briones, M.R., Nagai, M.A., da Silva, W. Jr., Zago, M.A., Bordin, S., Costa, F.F., Goldman, G.H., Carvalho, A.F., Matsukuma, A., Baia, G.S., Simpson, D.H., Brunstein, A., deoliveira, P.S., Bucher, P., Jongeneel, C.V., O'Hare, M.J., Soares, F., Brentani, R.R., Reis, L.F., de Souza, S.J. and Simpson, A.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: asimpson@ludwig.org.br
This sequence was derived from the FAPESP/LICR Human Cancer Genome
Project. This entry can be seen in the following URL
(http://www.ludwig.org.br/scripts/gethtml2.pl?tl=MR1&t2=MR1-RT0025-
1711100-003-e09&t3=2000-11-17&t4=1)
Seq primer: puc 18 forward
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Simpson A.J.G.
Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
Rua Prof. Antonio Prudente 109, 4 andar, 01509-010,
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Mammalia; Eutheria; Buarchontoglires; Primates; Catarrhini;
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                                                                                                                                                                                        /note="Organ: kidney_tumor; Vector: puc18; Site_1: SmaI; Site_2: SmaI; A mini-library was made by cloning products derived from ORESTES PCR (U.S. Letters Parent application No. 196,716 - Ludwig Institute for Cancer Research) profiles into the pUC 18 vector. Reverse transcription of tissue mRNA and cDNA amplification were performed under low stringency conditions."
                                                                                                                                                                                                                                                                                                                                                                        /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/dev_stage="Adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ocation/Qualifiers
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95.5%;
                                                                                                      72.1%;
88.0%;
                                                                                                                                                                                                                                                                                                                                                   lib="RT0025"
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                                                                                  Score 20.2; DB 2;
Pred. No. 3.2e+03;
0; Mismatches 3;
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Pred. No. 2.8e+03;
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RT0025
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                                                                                                                           Length 205;
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ACATTATTGTTATAGTTTGTATGGA

Query Match Best Local : Matches

Similarity

72.1%; 88.0%;

Score 20.2; DB 9; Pred. No. 3.2e+03; 0; Mismatches 3;

Length 351; Indels

0

Gaps

0

Conservative

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ACCESSION
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Pax: 706 583 0210

Email: mmpratt@uga.edu

RNA prepared and library constructed by W. Walter Lorenz (School of Forest Resources, University of Georgia); plant material prepared by Craig Zimmermann (School of Forest Resources, University of Georgia) using rooted cuttings provided by the Forest Biology Research Cooperative (FBRC) and the CCLONES project a the University of Florida; sequencing done in the Laboratory for Genomics and Bioinformatics, University of Georgia. Sequence ends have been trimmed to exclude vector and regions below Phred quality 16. Three-prime sequences are presented as their reverse complement and have been trimmed to exclude polyA.

Seq primer: M13-21 (TGTAAAACGACGGCCAGT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unpublished (2005)
Other EST8: RTPHOS1 4 F02.gl A029
Other EST8: RTPHOS1 4 F02.gl A029
Contact: Cordonnier-Pratt MM
Laboratory for Genomics and Bioinformatics
Laboratory for Genomics and Bioinformatics
The University of Georgia, Department of Plant Biology
Plant Sciences Building, Rm. 2502, Athens, GA 30602-7271, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RTPHOS1 4 F02.b1 A029 Roots minus phosphorous Finus taeda cDNA
clone RTPHOS1 4 F02 A029 3', mRNA sequence.
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1 (bases 1 to 351)
Pratt,L., Cordonnier-Pratt,M.M., Lorenz,W.W., Zimmermann,C. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      An EST database from phosphorous-deficient loblolly pine (Pinus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Coniferopsida; Coniferales; Pinaceae; Pinus; Pinus.
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            ROOCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                               /db_xref="taxon:3352"
/clone="RTPHOS1_4_F02_A029"
lab_host="DH10B-T1_phage-resistant_B._coli"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     organism="Pinus taeda"
/mol_type="mRNA"
/strain="3 CCLONES"
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83

ACATTATTGTTATAGTTTGGCAGGA 107

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REFERENCE
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BQ851812
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1 (bases 1 to 487)

Kozik, A., Michelmore, R.W., Knapp, S., Matvienko, M., Rieseberg, L., Lin, H., van Damme, M., Lavelle, D., Chevalier, P., Ziegle, J., Ellison, P., Kolkman, J., Slabaugh, M.S., Livingston, K., Zhou, Y., Lai, Z., Church, S., Jackson, L. and Bradford, K.

Lettuce and Sunflower ESTs from the Compositae Genome Project http://compgenomics.ucdavis.edu/
Unpublished (2002)
                   Oryzias latipes DNA, survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Email: akozik@atgc.org [michelmore@vegmail.ucdavis.edu]
belongs to contig QG_CA_Contig6733, see http://cgpdb.uc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Contact: Alexander Kozik [R.W.Michelmore]
Department of Vegetable Crops, R.W.Michelmore
University of California at Davis (UCD)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lactuca sativa
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
saterids; campanulids; Asterales; Asteraceae; Cichorioideae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BQ851812
QGB16F20.yg.ab1 QG_ABCDI
QGB16F20, mRNA sequence.
BQ851812
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                                                                DE110524
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                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                         GACATTATTGTTATAGTTTTGTATGG 25
                                                                                                                                                                                 GACATTCTTGTTATGGTTTGGATGG
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1-(530)-752-9659
                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone lib="QG_ABCDI lettuce salinas"
/note="Vector: pBRcDNASfiAB; The library was constructed from 10 different sources of RNA from a single genotype. Separate cDNAs were generated using primers that incorporated unique 5' and 3' tags to distinguish each source of RNA. cDNAs were then pooled, size-fractionated, directionally cloned into a custom medium-copy vector and transformations made with four size classes to minimize size bias. Details of each source of RNA and library
                                                                                                                                                                                                                                                                                                                                                                                construction can be obtained at http://cgpdb.ucdavis.edu/TAG_TISSUB=chemical induction
TAG_LIB=QG_ABCDI lettuce salinas
TAG_SEQ=TGFAGCCGGG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /cultivar="Salinas"
/db_xref="taxon:4236"
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|mol_type="mRNA"
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                                                                                                                                                                                                                                                                                        72.1%;
88.0%;
                                        reverse end
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                                                                                                                                                                                                                                                                                          Score 20.2;
Pred. No. 3
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lettuce salinas Lactuca sativa cDNA clone
                                        of BAC clone: Md0153B05, genomic
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                                                                                                                                                                         Contact: Lawrence B. Schook
Department of Animal Sciences
University of Illinois at Urbana Champaign
1201 W. Gregory Dr., Urbana, IL 61801, USA
Tel: 217 265 5326
Fax: 217 244 5617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oryzias latipes
Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei
Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha;
Beloniformes; Adrianichthyidae; Oryziinae; Oryzias.
Clones are derived from the porcine BAC library RPCI-44 (http://www.bacpac.chori.org/porcine242.htm). For BAC library availability, please contact Pieter de Jong (pdejong@chori.org). Clones may be purchased from BACPAC Resources (http://bACPACorders.chori.org). This work was undertaken as part of the International Swine Genome Sequencing Consortium by University of Illinois at Urbana Champaign, USA with funds provided
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RPCI44_281L13.r RPCI-44 Sus scrofa genomic clone RPCI44_281L13, genomic survey sequence.
CL387597.1 GI:51439557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (30-JUN-2005) Nobuyoshi Shimizu, Keio University, Sof Medicine, Molecular Biology; 35 Shinanomachi, Shinjuku-ku, Tokyo, 160-858z, Japan (E-mail:nshimizu@dmb.med.keio.ac.jp, Tel:81-3-3351-2370, Fax:81-3-3351-2370)
                                                                                                                                                                                                                                                                                                             Unpublished (2004)
Other_GSSs: RPCI44_281L13.f
                                                                                                                                                                                                                                                                                                                                                       Rogatcheva,M.B., Meyers,S., He,W., Larkin,D.M. Beever,J.B. and Schook,I.B. Piggy-BACing the Human Genome: Constructing a Through Comparative Genomics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sus scrofa
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2 (bases 1 to 543)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Suina; Suidae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Oryzias latipes (Japanese medaka)
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GSS.
                                                                                                                                                             Email: schook@uiuc.edu
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               scrofa (pig)
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/note="This sequence is reverse end of Md0153B05."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Oryzias latipes"
/mol_type="genomic DNA"
/db_xref="taxon:8090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone="Md0153B05"
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linear

BST 14-AUG-2002

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REFERENCE
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CD820121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genoplante, a major partnership french program in plant genomics Unpublished (2003)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Brassica napus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Seq primer: SP6
Class: BAC ends.
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Plate: 281 row: L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            by grant No. AG2002-34480-11828 from USDA-CSREES and AG2001-35205-09965 from USDA/NRI (Livestock Genome Sequencing
                                                                                                                                                                                                                                                                                                                                                                                                                      Tel: 33 1 69 47 54 00 Fax: 33 1 69 47 54 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                              93, rue Henri Rochefort 91025 EVRY CEDEX France
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Genoplante
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genopiante.
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                        ACATTATTGTTATAGTTTTGTATGGA 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (bases 1 to 621)
                                                                                                                                                                                                                                                                                                                                     s sequence has been generated in the framework of the french nt genomics programme 'Genoplante' (http://www.genoplante.com http://genoplante.info.infobiogen.fr).
Location/Qualifiers
                                                                              Conservative
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                                                                                                                                                                            /mol_type="mRNA"
/cultivar="Jet Net"
/db_xref="taxon:3708"
/clone="BN20051E05"
/tissue_type="seed"
/clone_Tib="BN20"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone_lib="RPCI-44"
/note="Vector: pTARBAC2; Site_1: EcoRI; Site_2: EcoRI;
porcine male BAC library produced by Pieter de Jong"
                                                                                                                                                                                                                                                                                                  organism="Brassica napus"
                                                                                                                                                                                                                                                                                                                       1. .621
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                                                                                             72.1%;
88.0%;
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                                                                          Score 20.2; D
Pred. No. 3.3e
0; Mismatches
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Pred. No. 3.3e+03;
0; Mismatches
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                                                                                               .3e+03;
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GGB23K09.yg.abl QG_ABCDI
QGB23K09, mRNA sequence.
                                 BQ864783
QGC27K11.yg.ab1 QG_ABCDI
QGC27K11, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               http://compgenomics.ucdavis.edu/
Unpublished (2002)
Contact: Alexander Kozik [R.W.Michelmore]
Department of Vegetable Crops, R.W.Michelmore
University of California at Davis (UCD)
Asmundson Hall, UCD, Davis, CA 95616, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cichorieae; Lactuca.

1 (bases 1 to 645)

Kozik, A., Michelmore, R.W., Knapp, S., Matvienko, M., Rieseberg, L., Lin, H., van Damme, M., Lavelle, D., Chevalier, P., Ziegle, J., Ellison, P., Kolkman, J., Slabaugh, M.S., Livingston, K., Zhou, Y., Lai, Z., Church, S., Jackson, L. and Bradford, K. Lettuce and Sunflower ESTs from the Compositae Genome Project
                                                                                                                                                                                                                                                           Similarity
22; Conserv
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Location/Qualifiers
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Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
asterids; campanulids; Asterales; Asteraceae; Cichorioideae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: akozik@atgc.org [michelmore@vegmail.ucdavis.edu]
belongs to contig QG_CA_Contig6733, see http://cgpdb.ucdavis.edu/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tel: 1-(530)-742-1742
Fax: 1-(530)-752-9659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lactuca sativa
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                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                    /clone lib="QG_ABCDI lettuce salinas"
/clone lib="QG_ABCDI lettuce salinas"
/note="Vector: pBRcDNASfiAB; The library was constructed from 10 different sources of RNA from a single genotype. Separate cDNAs were generated using primers that incorporated unique 5' and 3' tags to distinguish each source of RNA. cDNAs were then pooled, size-fractionated, directionally cloned into a custom medium-copy vector and transformations made with four size classes to minimize size bias. Details of each source of RNA and library construction can be obtained at http://cgpdb.ucdavis.edu/TAG_TISSUBschemical induction
TAG_TIB=QG_ABCDI lettuce salinas
TAG_SEQ=TGTAGCCGGG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /lab_host="E.coli"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /mol_type="mRNA"
/cultivar="Salinas"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       organism="Lactuca sativa"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        clone="QGB23K09"
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88.0%;
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Pred. No. 3.3e
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                                                          salinas Lactuca sativa cDNA clone
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Length 645;

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Best Local
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                                                               Lactuca sativa
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
asterids; campanulids; Asterales; Asteraceae; Cichorioideae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 GACATTATTGTTATAGTTTGTATGG 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Department of Vegetable Crops, R.W.Michelmore University of California at Davis (UCD) Asmundson Hall, UCD, Davis, CA 95616, USA Tel: 1-(530)-742-1742 Fax: 1-(530)-752-9659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            http://compgenomics.ucdavis.edu/
Unpublished (2002)
Contact: Alexander Kozik [R.W.Michelmore]
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Kozik, A., Michelmore, R.W., Knapp, S., Matvienko, M., Rieseberg, L., Lin, H., van Damme, M., Lavelle, D., Chevaller, P., Ziegle, J., Ellison, P., Kolkman, J., Slabaugh, M.S., Livingston, K., Zhou, Y., Lai, Z., Church, S., Jackson, L. and Bradford, K.
Lettuce and Sunflower ESTs from the Compositae Genome Project
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                         Cichorieae; Lactuca.
1 (bases 1 to 706)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lactuca sativa
Kozik,A., Michelmore,R.W., Knapp,S., Matvienko,M., Rieseberg,L.,
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TAG_TIB=QG_ABCDI lettuce salinas
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/clome_lib="QG_ABCDI lettuce salinas"
/clome_tib="QG_ABCDI lettuce salinas"
/note="Vector: pBRCDNASfilB; The library was constructed
from 10 different sources of RNA from a single genotype.
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/cultivar="Salinas"
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88.0%;
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Pred. No. 3.3e+03;
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lettuce
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Liva cDNA clone
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BU007386
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Best Local S
Matches 22
                                                                              JOURNAL
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                                                                        Cichorieae; Lactuca.

1 (bases 1 to 728)

Kozik, A., Michelmore, R.W., Knapp, S., Matvienko, M., Rieseberg, L., Lin, H., van Damme, M., Lavelle, D., Chevalier, P., Ziegle, J., Ellison, P., Kolkman, J., Slabaugh, M.S., Livingston, K., Zhou, Y., Lai, Z., Church, S., Jackson, L. and Bradford, K.

Lettuce and Sunflower ESTs from the Compositae Genome Project http://compgenomics.ucdavis.edu/
Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QGH2a10.yg.ab1 QG_EFGHJ lettuce serriola Lactuca serriola cDNA clone QGH2a10, mRNA sequence.
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Contact: Alexander Kozik [R.W.Michelmore]
Contact: Alexander Kozik [R.W.Michelmore]
Department of Vegetable Crops, R.W.Michelmore
University of California at Davis (UCD)
                                                                                                                                                                                                                                                                                              Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; asterids; campanulids; Asterales; Asteraceae; Cichorioideae;
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Lactuca serriola
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Fax: 1-(530)-752-9659
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belongs to contig QG_CA_Contig6733, see http://cgpdb.uc
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/note="Vector: pBRcDNASfiAB; The library was constructed from 10 different sources of RNA from a single genotype.
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Pred. No. 3.3e+03;
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Plate: QGH2 row: a column:
Location/Qualifiers
                                                                                                                                                                                                                                                                                         Bedell, J.A., Budiman, M.A., Nunberg, A., Citek, R.W., Robbins, D., Jones, J., Filck, E., Rohlfing, T., Fries, J., Bradford, K., McMenamy, J., Smith, M., Holeman, H., Roe, B.A, Wiley, G., Korf, I.F. Rabinowicz, P.D., Lakey, N., McCombie, W.R., Jeddeloh, J.A. and Martienssen, R.A.
                                                    Email: jbedell@oriongenomics.com
plate: fsbb001f047 row: i colu
Seq primer: k Reverse
Class: methylation filtered
                                                                                                                                  Tel: 314 615 6979
Fax: 314 615 5975
                                                                                                                                                                    Contact: Bedell JA
Orion Genomics, LLC
4041 Forest Park Ave,
                                                                                                                                                                                                                                                  Sorghum genome sequencing by methylation filtration PLoS Biol. 3 (1), e13 (2005)
                                                                                                                                                                                                                                                                                                                                                                                      Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnollophyta; Liliopsida; Poales; Poaceae; PACCAD clade; Panicoideae; Andropogoneae; Sorghum.

1 (bases 1 to 758)
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Sorghum bicolor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      fsbb001f047i11k0 Sorghum methylation Sorghum bicolor genomic clone fsbb001
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belongs to contig QG_CA_Contig6733, see http://cgpdb.ucdavis.edu/
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                quality sequence stop: 758.
Location/Qualifiers
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TAG_LIB=CG_EFGHJ lettuce serriola
TAG_SEQ=GCTAGTCGGG"
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/clome_lib="QG_EFGHJ lettuce serriola"
/note="Vector: pBRCDNASfiAB; The libra
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88.0%;
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Pred. No. 3.3e+03;
0; Mismatches 3;
                                                                                                                                                                         St. Louis,
                                                                                             column:
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ylation filtered library (LibID
fsbb001f047ill, genomic survey
                                                                                                                                                                         MO 63108, USA
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sequence.
AG529207
AG529207.1
GSS.
                                                                                                                                                                                                                                                                                                    and Chemical Research (RIKEN), Genomic Sciences Center (GSC);
1-7-22 Suehiro-chou, Tsurumi-ku, Yokohama, Kanagawa, 230-0045, Japan
(B-mail:hattori@gsc.riken.jp, URL:http://hgp.gsc.riken.go.jp/,
Tel:81-45-503-9111, Fax:81-45-503-9170)
Clones are derived from the mouse BAC library MSMg01. For BAC
library availability, please contact Kuniya Abe (abe@rtc.riken.jp).
Tsukuba Institute of Physical and Chemical Research (RIKEN) 3-1-1
KOyadai, Tsukuba, 305-0074 Japan
phone: 81-298-36-9189, fax: 81-298-36-9199
e-mail: abe@rtc.riken.jp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi; Muroidea; Muridae; Murinae; Mus.
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22; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 (bases 1 to 760)
Hattori, M., Toyoda, A., Noguchi, H., Kojima, T. and Sakaki, Y.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contribution of Asian mouse subspecies Mus musculus molossinus genomic constitution of strain C57BL/6J, as defined by BAC-end
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AG529207
Mus musculus
                                                                                                                                                                                                                                   Sequencing :
LIBRARY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sequence-SNP analysis
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus molossinus
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/organism="Mus musculus molossinus"
/mol type="genomic DNA"
/sub_species="molossinus"
/db_xref="taxon:57486"
                                                                                                                            Location/Qualifiers
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/cultivar="ATx623"
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/clone="fsbb001f047i11"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 guchi,H., Tagawa,K., Yuzuriha,M., Toyoda,A., Kojima,T.,
Saitou,N., Hattori,M., Sakaki,Y., Moriwaki,K. and
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: ECORI
: ECORI.
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88.0%;
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Pred. No. 3.3e+03;
0; Mismatches 3
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Local Similarity 88.0%;
les 22; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BG021561 528 bp mRNA linear dg32b09.x1 Xenopus laevis gastrula non normalized cDNA clone IMAGE:3750473 3', mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WashU Xenopus EST project, 1999
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Clifton, S., Johnson, S.L., Blumberg, B., Song, J., Hillier, L., Pape, D., Martin, J., Wylle, T., Underwood, K., Theising, B., Bowers, Y., Person, B., Gibbons, M., Harvey, N., Ritter, E., Jackson, Y., McCann, R., Waterston, R. and Wilson, R.
Waterston, R. and Wilson, R.
Washu Xenopus EST project, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Library constructed by Bruce Blumberg
Library normalized by Jihwan Song
DNA Sequencing by: Washington University Genome Sequencing Center
Source lab clone id - xinnga009c18 This clone is available
royalty-free through LLNL; contact the IMAGE Consortium
(image@image.llnl.gov) for further information.
seq primer: -40UP from Gibco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Contact: Sandy Clifton, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unpublished (1999)
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Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             smail: est@watson.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Xenopodinae; Xenopus; Xenopus.
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314 286 1810
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              /Clone lib-"Xenopus laevis gastrula non normalized"
/note="Vector: pBluescript SK-; Site 1: EcoRI; Site 2:
XhoI; cDNA was prepared from 2 ug of poly A+ RNA (equal parts from stage 10.5 and stage 11.5 gastrulae).
EcoRI-XhoI cut cDNA was then ligated into UniZap-XR (Stratagene) with EcoRI at the 5' end and XhoI at the 3' end. The library was mass excised and used to infect Top10F'. Clones were picked into freezing medium (per liter 15 g tryptone, 10g yeast extract, 5g NaCl, 36 mM X2HPO4, 13.2 mM KH2PO4, 17 mM Na-citrate, 0.4 mM MgSO4 7 H2O, 6.8 mM (NH4)2SO4, 4 % w/v glycerol) and grown for 24 hours. Original library construction by Bruce Blumberg (Cho et al 1991 Cell 67, 1111-1120)."
                                                                                                                                                                                                                                                                                                                                                                                      /organism="Xenopus laevis"
/mol_type="mRNA"
/mol_type="mRNA"
/db_xref="taxon:8355"
/clone="IMAGB:3750473"
/clone="IMAGB:3750473"
/tissue_type="gastrula (stages 10.5, 11.5 mixed)"
/lab_host="Top-10 F'"
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/clone_Tib="MSMg01 Mouse Male BAC Library"
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/sex="male"
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Pred. No. 3.3e+03;
0; Mismatches 3
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RESULT 29
AQ829979/c
LOCUS
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AUTHORS
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ORGANISM
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VERSION
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BM610169/c
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Best Local Similarity
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Best Local S
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BM610169
BM610169.1
BST.
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                                    17000687110115 A.Gam.ad.cDNA.blood1 19600449718565 5', mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: jwallace@u.washington.edu
Clones may be purchased from Research Genetics (info@resgen.com)
BAC end Web Server: http://www.htsc.washington.edu
Plate: 4828 row: L column: 11
Seq primer: T7
Class: BAC ends
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               High Throughput Sequencing Center
University of Washington
401 Queen Anne Avenue North, Seattle,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Contact: Mahairas GG, Wallace JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence-tagged connectors: A sequence approach to mapping and scanning the human genome Proc. Natl. Acad. Sci. U.S.A. 96 (17), 9739-9744 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hominidae; Homo.
1 (bases 1 to 534)
Mahairas,G.G., Wallace,J.C., Smith,K., Swart
Keller,A., Shaker,R., Furlong,J., Young,J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tel: (206) 616-3618
Fax: (206) 616-3887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10449764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (human)
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                                                                                                                                                                 ATTATTGTTATAGTTTGTAT 346
                                                                                                                                                                                   ATTATTGTTATAGTTTGTAT 23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               quality sequence stop: 534.
Location/Qualifiers
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                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                           /clone_lib="CIT Approved Human Genomic Sperm Library D"/note="Organ: sperm; Vector: pBeloBAC11; BAC Clones in E-Coli DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                              į. .534
                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
/mol_type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                                              clone="Plate=4828 Col=11 Row=L"
                                                                                                                                                                                                                                                                                                                                                                                                 db_xref="taxon:9606"
                  GI:18908273
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82.1%;
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Pred. No.
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Pred. No. 3.9e+03;
                                                                                                                                                                                                                               Mismatches
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. 3.9e+03;
ches 0;
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Anopheles gambiae cDNA clone
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g,J., Zhao,S.,
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Adams, M.D.
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JOURNAL COMMENT
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Best Local (
                                                                                                                                                                                  TITLE
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                                                                                                                                                                                                                                               AUTHORS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   424 GACATTATTGTGTTAGTAAGGATGGAAC 397
                                                                                                                                                                                                                                                                               Oryza coarctata
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; BEP
clade; Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       CZ821000 664
OC_Ba0199G04.f OC_Ba Oryza
5', genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Celera Genomics
45 w. Gude Dr., Rockville,
Tel: 2404533151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Culicidae; Anophelinae; Anopheles.

(bases 1 to 627)

Holt, R.A., Lin, J.-J., Murphy, S.D., Evans, C.A., Kraft, C.Charlab, R., Collins, F.H., Venter, J.C. and Hoffman, S.L. Celera Anopheles gambiae EST project

Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Anopheles gambiae (African malaria mosquito)
Anopheles gambiae
Bukaryota; Metazoa; Arthropoda; Hexapoda; In
                                  Arizona Genomics Institute
University of Arizona
Forbes Building Room 303, '
Tel: 520 626 9595
Fax: 520 621 1259
                                                                                                                                       OMAP (Oryza Map Alignment Project) - Arizona Genomics Institute
Unpublished (2005)
Contact: Rod A. Wing
                                                                                                                                                                                                                                                                                                                                                                                                                                   5', genomic survey sequence. CZ821000
                                                                                                                                                                                                                                        Kim, H.,
                                                                                                                                                                                                                                                                                                                                                                     Oryza coarctata (Porteresia coarctata)
                                                                                                                                                                                                                                                                                                                                                                                                                CZ821000.1 GI:71260853
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Email: HoltRA@celera.com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Holt R.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Nematocera; Culicoidea;
                 Email: rwing@genome.arizona.edu
                                                                                                                                                                                                                       Rao, K., Luo, M., Jetty, R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fax: 2404534580
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                   Collura, K., Wissotski, M., Byrne, M., Stum, D., Smart, D., Luo, M., Jetty, R., Kudrna, D., Muller, C., Soderlund, C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone lib="A.Gam.ad.cDNA.blood1"
/clone lib="A.Gam.ad.cDNA.blood1"
/note="Vector: pSport1; Site 1: Sall; Site 2: Not1; Whole adult mosquitoes (mixed sex) frozen on liquid nitrogen 24 hours after human blood feeding. cDNA inserts >500 bp cloned directionally into pSport 1. Not 1 site is 3'. Clones available through the Malaria Research and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Reference Reagent Resource Center (www.malaria.mr4.org)"
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/mol_type="mRNA"
/strain="RSP-ST (Reduced susc. to Permethrin - std.
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/lab_host="DH10b"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  db_xref="taxon:7165"
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82.1%;
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                                                                         Tucson,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            coarctata
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GSS 26-JUL-2005
e OC_Ba0199G04
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AUTHORS
TITLE
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VERSION
KEYWORDS
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AL849178
LOCUS
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AL849178
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AL849178
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Seq primer: TAA TAC GAC TCA CTA TAG
Class: BAC ends.
                                                                                                                                                                                                                                                                                 constructed by Aaron M. Zorn.

CDNA was oligo dT primed from 5ug of poly A+ RNA from egg.

ECORI-Not1 cut cDNA was then ligated into pCS107 with ECORI at 5' end and Not1 at the 3' end.

Vector: pCS107; Site 1: ECORI; Site 2: Not1

Host: Escherichia coli XL1-blue.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unpublished (2003)
On Sep 15, 2002 this sequence version replaced gi:22869400
Contact: Taylor R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Xenopodinae; Xenopus; Silurana.

1 (bases 1 to 665)
Croning, M.D.R., Ashurst, J.L., Taylor, R., Zorn, A.M. and Rogers, J.
Sanger Xenopus tropicalis EST project 2001 (11_2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                Hinston, Cambridgeshire, CB10 1SA, UK
Email: trop@sanger.ac.uk
Sanger Xenopus troppicalis EST project 2001
TROPICALIS_SEQUENCE ID: TEgg002h04.plkSP6
                                                                                                                                                                                                                                                                                                                                                                                                          This sequence is from a Xenopus Gene Collection (XGC) library
                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequencing primer:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sanger Institute
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Xenopus tropicalis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xenopus tropicalis (western clawed frog)
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BACKWARD: CAC TCA TTA GGC ACC CCA
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            /lab_host="Escherichia coli XL1-blue" /clome lib="XGC-egg" /clome lib="XGC-egg" /note="Vector: pCS107; Site_1: EcoRI; Site_2: NotI; cDNA was oligo dT primed from Sug of poly A+ RNA from egg. EcoRI-NotI cut cDNA was then ligated into pCS107 with EcoRI at the 5' end and NotI at the 3' end"
                                                                                                                                                                              /organism="Xenopus tropicalis"
/mol_type="mRNA"
/db_xref="taxon:8364"
                                                                                                                                                                                                                                                                Location/Qualifiers
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/lab_host="DH10B"
/clone_lib="OC__Ba"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /mol_type="genomic DNA
/db_xref="taxon:77588"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bocation/Qualifiers
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                                                                                                                                                        clone="TEgg002h04"
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82.1%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished (2004)
Contact: Dr. James A. Coffman
WashU Sea urchin EST Project
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. I
                                                                                                                                                                                                                       _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Coffman, J.A., Robertson, A.J., Clifton, S., Pape, D., Hillier, L., Martin, J., Wylie, T., Dante, M., Meyer, R., Theising, B., Bowers, Y., Gibbon, M., Ronko, I., Tsagareishvili, R., Ritter, E., Kennedy, S. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Strongylocentrotus purpuratus
Eukaryota; Metazoa; Echinodermata; Eleutherozoa;
Echinoidea; Euechinoidea; Echinacea; Echinoida;
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700 bp
ydc08b02.y2 Sea urchin EST Lib1 S
clone ydc08b02 5', mRNA sequence.
                                                              CX908094 749 bp mRNA
JGI CAAN728.fwd NIH XGC_tropTe4 Xenopus
IMAGE:7686784 5', mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA sequencing by: Washington University Genome Seq primer: -28RPpOT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WashU Sea Urchin EST Project
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                                   CX908094.1 GI:58647438
                                                   CX908094
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Xenopus tropicalis (western clawed frog)
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/note="Vector: pCMVSport6.1 (Invitrogen); Site 1: Not1;
/site 2: Smal; Arrayed normalized library of full-length
cDNAS representing blastula stage transcriptome of the aurchin Strongylocentrotus purpuratus, cloned into the
vector pCMVSport6.1 (Invitrogen)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Strongylocentrotus purpuratus"
|mol_type="mRNA"
|db xref="taxon:7668"
|clone="ydc08b02"
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Pred. No. 3.9e+03;
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Pred. No. 3.9e+03
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CZ754866

OC_Ba0106B12.f OC_Ba Oryza coarctata genomic clone OC_Ba0106B12
5', genomic survey sequence.
CZ754866.1 GI:71194717
GSS.
Oryza coarctata (Porteresia coarctata)
Oryza coarctata (Porteresia coarctata)
Oryza coarctata Uxidiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; BEP
                                                                                                                                                                                                                                                                                                                                \vdash
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA Sequencing: DOB Joint Genome Institute: http://www.jgi.doe.gov Clone Distribution: I.M.A.G.E. Consortium/LLNL: http://image.llnl.gov http://image.llnl.gov naming Conventions: EST name is generated by the concatenation of the JGI Clone Id and the direction of sequencing. The suffix '.fwd' indicates a forward sequencing read of the insert. It does not necessarily reflect the orientation of the insert. Plate: CAAN 0005 row: p column: 14 High quality sequence stop: 684.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished (2004)
Other_BSTs: JGI_CAN728.rev
OtherESTs: JGI_CAN728.rev
Contact: Lindquist,B.A., Richardson,P.
DOB_Joint Genome Institute
2800 Mitchell Drive, Walnut Creek, CA 94598, USA
Tel: 925 296 5710
Fax: 925 296 5710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae; Xenopodinae; Xenopus; Silurana.

1 (bases 1 to 749)
1 (bases 1 to 749)
1 (bases 1, Lindquist, E.A.
Brokstein, P. and Lindquist, E.A.
DOB Joint Genome Institute Xenopus tropicalis BST project
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http://www.jgi.doe.gov
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Email: cdna@jgi-psf.org
Tissue Procurement: Timothy Grammer (Richard M. Harland Laboratory,
                                                                                                                                                                                                                                                                                          GAAATTATTGCTATAAATAGTATGGAAC 269
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/mol_type="mRNA"
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82.18;
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Pred. No. 3.9e+03;
Pred. No. 3.9e+03;
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                                                                                                                      Moore, S., Alexander, L., Brownstein, M., Guan, L., Lobo, S., Meng, Y., Moore, S., Alexander, L., Brownstein, M., Guan, L., Lobo, S., Meng, Y., Tanaguchi, M., Wang, Z., Yu, J., Prange, C., Schreiber, K., Shenmen, C., Magner, L., Bala, M., Batbazuk, S., Barber, S., Babakaiff, R., Beland, J., Chun, E., Del Rio, L., Gibson, S., Hanson, R., Stott, J., Kirkpatrick, R., Liu, J., Matsuo, C., Mayo, M., Santos, R.R., Stott, J., Kirkpatrick, Wong, D., Siddiqui, A., Holt, R., Jones, S. J. and Marra, M.A. Bovine Genome Sequencing Program: Full-length cDNA Sequencing Unpublished (2005)

Contact: Robert Kirkpatrick
Canada's Michael Smith Genome Sciences Centre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 GACATTATTGTTATAGTTTGTATGGAAC 28
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University of Arizona
Forbes Building Room 303, Tucson,
Tel: 520 626 9595
Fax: 520 621 1259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OMAP (Oryza Map Alignment Project) - Arizona Genomics Institute Unpublished (2005)
Contact: Rod A. Wing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BC Cancer Agency
Suite 100, 570 West 7th Avenue,
                                                                                                                                                                                                                                                                                                                   Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutaleostomi;
Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;
Pecora; Boyidae; Boyinae; Bos.
1 (bases 1 to 763)
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BACKWARD: CAC TCA TTA GGC ACC CCA
Plate: 0106 row: B column: 12
Seq primer: TAA TAC GAC TCA CTA TAG
Class: BAC ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           clade; Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                                                                                                                                                                                Bos taurus (cattle)
                                                                                                                                                                                                                                                                                                                                                                                                                                                       DV932465.1 GI:82989654
                                        Fax: 1-604-876-3561
                                                                           Canada,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PCR PRimers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: rwing@genome.arizona.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATATGAGTGTTATAGTTTGTTTGGTAC 624
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(bases 1 to 754)

m,H., Collura,K., Wissotski,M., Byrne,M., Stum,D., Smart,D.,

m,H., Collura,K., Wissotski,M., Byrne,M., Stum,D., Smart,D.,
                                                      la, V5Z 4S6
1-604-707-5900 x5406
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robertk@bcgsc.ca
Length: 763 Std Error: 0.00
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/lab_host="DH10B"
/clone_lib="OC_Ba"
/note="Vector: pAGIBAC1; Site_1: HindIII; Site_2: HindIII"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /mol_type="genomic DNA"
/db_xref="taxon:77588"
/clone="OC_Ba0106B12"
/tissue_type="leaves"
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82.1%;
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Pred. No. 3.9e+03;
0; Mismatches
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Bos
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                                                                                             Vancouver,
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                                                                                               British Columbia
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CX896534
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VERSION
KEYWORDS
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AUTHORS
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Best Local :
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High quality sequence stop:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 832)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                              Location/Qualifiers
                     clone="IMAGE: 7680909"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tissue_type="Muscle"
                                                                                               . 832
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82.1%;
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703 GCCATTTTTGTTATTGTATGTATTGAAC 730
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Brokstein, P. and Lindquist, E.A.
DOE Joint Genome Institute Xenopus tropicalis EST project Unpublished (2004)
Other_ESTs: JGI_CAAM6990.rev
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 GACATTATTGTTATAGTTTGTATGGAAC 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Contact: Lindquist,E.A., Richardson,P.
DOE Joint Genome Institute
2800 Mitchell Drive, Walnut Creek, CA 94598,
Tel: 925 296 5600
Fax: 925 296 5710
                                                                                                                                                                                     Naming Conventions: BST name is generated by the concatenation of the JGI Clone Id and the direction of sequencing. The suffix '.fwd' indicates a forward sequencing read of the insert. It does not necessarily reflect the orientation of the insert.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CX896534 832 bp
JGI_CAAM6990.fwd NIH_XGC_tropTe3
IMAGE:7680909 5', mRNA sequence.
                                                                                                                                  Plate: CAAM 0073 row: k column: 19
High quality sequence stop: 724.
                                                                                                                                                                                                                                                                                              http://www.jgi.doe.gov
DNA Sequencing: DOE Joint Genome Institute: http://www.
Clone Distribution: I.M.A.G.E. Consortium/LLNL:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                             http://tropicalis.berkeley.edu/home)
cDNA Library Preparation: DOE Joint Genome Institute:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      University of California, Berkeley:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Email: cdna@jgi-psf.org
Tissue Procurement: Timothy Grammer (Richard M. Harland Laboratory,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Xenopus tropicalis (western clawed frog)
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/mol type="mRNA"
/strain="Ll Hereford"
/db xref="taxon:9913"
/clone="IMAGE:8141805"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="Vector: pExpress 1; Site_1: Blunt (5' Site_2: NotI (3' end of cDNA)"
/organism="Xenopus tropicalis"
/mol_type="mRNA"
/db_xref="taxon:8364"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /dev_stage="6 months old fetus"
/lab_host="E. coli DH10B T1 Phage
/clone_lib="GC_BGC_30"
/note="Vector: pExpress 1; Site_1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 20; DB Pred. No. 3.9e 0; Mismatches
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Xenopus tropicalis
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Town, C.D., Shetty, J., Koo, H. and Feldblyum, T.F.
Sequencing of BAC ends from Medicago truncatula
Unpublished (2003)
Other_GSSs: MBENQ64TF
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons; rosids; eurosids I; Fabales; Fabaceae; Papilionoideae; Trifolieae;
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                                                                                                                                                                                                                                                          Email: cdtown@tigr.org
Seq primer: CAGGAAACAGCTATGACC
Class: BAC ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Medicago truncatula (barrel medic)
Medicago truncatula
                                                                                                                                                                                                                                                                                                                 9712 Medical Center Drive, Rockville, Tel: 301-838-3523
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                        GACATTATTGTTATAGTTTGTATGGAAC 28
GAAAGTATTTTAATAGTTTGTATTGAAC 95
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                                                   Conservative
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/note="Vector: pBeloBAC11; Site_1: HindIII; Site_2:
HindIII; Cook, D.R. and Kim, D.J, unpublished"
                                                                                                                                                                                       /organism="Medicago truncatula"
/mol_type="genomic DNA"
/cultivar="genotype A17"
                                                                                                                                                             'db_xref="taxon:3880"
'clone="10K7"
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82.1%;
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82.1%;
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Pred. No. 3.9e+03;
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3.9e+03;
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TITLE
JOURNAL
PUBMED
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1 (bases 1 to 511)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CF091813 511 bp mRNA linear EST 22-JUL-2003 QHM9H07.yg.ab1 QH_M sunflower H.argophyllus Helianthus argophyllus CDNA clone QHM9H07, mRNA sequence.
                 Wang, Z., Samuelson, J., Clark, C.G., Eichinger, D., Dellen, K., Hall, N., Anderson, I. and Loftus, B. Gene discovery in the Entamoeba invadens genome Mol. Biochem. Parasitol. 129 (1), 23-31 (2003)
                                                                                               Eukaryota; Entamoebidae; Entamoeba.

1 (bases 1 to 536)
                                                                                                                                           Entamoeba invadens
Entamoeba invadens
                                                                                                                                                                                       SSD
                                                                                                                                                                                                                                                   genomic survey sequence
                                                                                                                                                                                                                                                                       EINCK17TF EI_10_12_KB Entamoeba
                                                                                                                                                                                                                                                                                                BZ392066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Alexander Kozik [R.W.Michelmore]
Department of Vegetable Crops, R.W.Michelmore
University of California at Davis (UCD)
Asmundson Hall, UCD, Davis, CA 95616, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                http://compgenomics.ucdavis.edu
Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kozik, A., Michelmore, R.W., Knapp, S., Matvienko, M., Rieseberg, L., Lin, H., van Damme, M., Lavelle, D., Chevaller, P., Ziegle, J., Ellison, P., Kolkman, J., Slabaugh, M.S., Livingston, K., Zhou, Y., Lai, Z., Church, S., Jackson, L. and Bradford, K.
Lettuce and Sunflower ESTs from the Compositae Genome Project
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                                                                                                                                                                                                         BZ392066.1 GI:30238603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: akozik@atgc.org [michelmore@vegmail.ucdavis.edu]
belongs to contig QH_CA_Contig4705, see http://cgpdb.ucdavis.edu/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tel: 1-(530)-742-1742
Fax: 1-(530)-752-9659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                for details.
Plate: QHM9
                                                                                                                                                                                                                                                                                                                                                                                                                              CATTATTGTTATAGTTTGTATGG 25
                                                                                                                                                                                                                                                                                                                                                                                                      CAATATTGTCATAGTTTGTATGG 284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone lib="QH M sunflower H argophyllus"
/note="Vector: pBRcDNASfiAB; The library was construct
from three different sources (seedling, root and leaf)
RNA from a single genotype: cDNAs were pooled and
directionally cloned into a custom medium-copy vector.
Details of library construction can be obtained at
http://cgpdb.ucdavis.edu/"
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/clone="QHM9H07"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Helianthus argophyllus"
/mol type="mRNA"
/ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lab_host="E.coli"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ocation/Qualifiers
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Pred. No. 4.6e+03;
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                                                                                                                                                                                                                                                                       invadens genomic clone EINCK17,
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                                                                                                                                                                                                                                                                                                linear
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REFERENCE
AUTHORS
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BU026745/c
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VERSION
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Best Local Similarity
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                                                      Bource
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                                                                                                                                                                                                                                                                                                             1 (bases 1 to 592)

Kozik, A., Michelmore, R.W., Knapp, S., Matvienko, M., Rieseberg, L., Lin, H., van Damme, M., Lavelle, D., Chevalier, P., Ziegle, J., Ellison, P., Kolkman, J., Slabaugh, M.S., Livingston, K., Zhou, Y., Lai, Z., Church, S., Jackson, L. and Bradford, K.

Lettuce and Sunflower ESTs from the Compositae Genome Project http://compgenomics.ucdavis.edu/
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TIGR
9712 Medical C
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BU026745 592 bp
QHG17014.yg.abl QH EFGHJ sunflower
clone QHG17014, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 GACATTATIGTTATAGTTIGTAT 23
                                                                                                 Email: akozik@atgc.org [michelmore@vegmail.ucdavis.edu] singleton, see http://cgpdb.ucdavis.edu/ for details. plate: QHG17 row: O column: 14.
                                                                                                                                                                                                                      Contact: Alexander Kozik [R.W.Michelmore]
Department of Vegetable Crops, R.W.Michelmore
University of California at Davis (UCD)
Asmundson Hall, UCD, Davis, CA 95616, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Helianthus annuus
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
asterids; campanulids; Asterales; Asteraceae; Asteroideae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: enta@tigr.org
DNA was provided by Daniel Eichinger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Other_GSSs: EINCK17TR
Contact: Brendan Loft
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BU026745.1 GI:22462265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Class: sheared ends.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Helianthus annuus (common sunflower)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GACATTATTGTTATAATTTGTTT 208
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                                                                                                                                                                      1-(530)-742-1742
1-(530)-752-9659
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/Clone lib**ELI 0.12 KB"
/Clone "Wector: pHOS2; Site 1: BstXI; Total genomic DNA was isolated from early log phase trophozoites of E. invadens isolated from early log phase trophozoites of E. invadens IP-1 using a Qiagen plant DNA extraction kit. A shotgun medium-size plasmid library (average insert size of 10-12 kb) was generated by random mechanical shearing of E. invadens genomic DNA, repairing the ends of DNA fragments with T4 Polymerase, adding BstXI adaptors and ligating into the BstXI site of a pUC-derived vector pHOS2."
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/organism="Helianthus annuus"
/mol_type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Entamoeba invadens"
/mol type="genomic DNA"
/strain="IP-1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   db_xref="taxon:33085"
clone="EINCK17"
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91.3%;
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Pred. No. 4.6e+03;
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VERSION
KEYWORDS
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DX044921/c
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                              source
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Brassica rapa subsp. pekinensis
Brassica rapa subsp. pekinensis
Brassica rapa subsp. pekinensis
Eukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
Spermatophyta; Magnoliophyta; eudicotyledons; core, Magnoliophyta; eurosids; eurosids II; Brassicales; Brassicaceae; Brassica.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DX044921 770 bp DNA linear GSS 10-JAN-
KBrB046A24R KBrB, Brassica rapa BamHI BAC library Brassica rapa
subsp. pekinensis genomic clone KBrB046A24, genomic survey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3 CATTATTGTTATAGTTTGTATGG 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Brassica Genomics Team
National Institute of Agricultural Biotechnology
225 Seodun-Dong, Suwon, 441-707, Korea
Tel: +82-31-299-1670
Fax: +82-31-299-1672
                                                                                                                                                                                                                                                                                                                                           Seq primer: M13 Reverse Class: BAC ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                End sequence of Brassica rapa BamHI (KBrB)
Unpublished (2005)
Contact: Beom-Seok Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Yang,T.J., Kwon,S.J., Kim,J.A, Kim,J.S., Lim,K.B., Jin,M., Park,J.Y., Lim,M.H., Kim,H.I., Choi,B.S., Seol,Y.J., Park, Hahn,J.H. and Park,B.S.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sequence.
DX044921
DX044921.1 GI:84739218
                                                                                                                                                                                                                                                                                                                                                                                                            Email: pbeom@rda.go.kr
BAC end sequence of Brassica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 770)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Separate cDNAs were generated using primers that incorporated unique 5 and 3 tags to distinguish each source of RNA. cDNAs were then pooled, size-fractionated, directionally cloned into a custom medium-copy vector and transformations made with four size classes to minimize size bias. Details of each source of RNA and library construction can be obtained at http://cgpdb.ucdavis.edu/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TAG_LIB=QH_EFGHJ_sunflower RHA280
TAG_SEQ=GCTAGTCGGG*
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                           by Yong-Pyo Lim
                                            /lab host="E.coli DH10B"
/clone_lib="KBrB, Brassica rapa BamHI BAC library"
/note="Vector: pCUGIBAC1; Site_l: BamHI; Brassica rapa spp
pekinensis var. Chiliu BAC library (KBrB BAC) is provided
                                                                                                                                                                                                                   /organism="Brassica rapa
/mol_type="genomic DNA"
/cultivar="Chiifu"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /lab_host="E coli"
/clone lib="QH_EFRHJ sunflower RHA280"
/clone lib="QH_EFRHJ sunflower RHA280"
/note="Vector: pBRCHJ sunflower RHA from a single genotype.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /cultivar="RHA280"
/db_xref="taxon:4232"
/clone="QHG17014"
                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                      /sub_species="pekinensis"
/db_xref="taxon:51351"
                                                                                                                                                   clone="KBrB046A24"
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91.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
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Pred. No. 4.
                             (CNU) . "
                                                                                                                                                                                                                                                                                                                                                                                                                 rapa ssp. pekinensis BamHI BAC clone
                                                                                                                                                                                                                                                                   subsp. pekinensis"
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GSS 10-JAN-2006

Park, D.S.,

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CNS07B84/c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (08-SEP-2000) Genoscope - Centre National de Sequencage, 2 rue Gaston Cremieux, CP 5706, 91057 EVRZ cedex - FRANCE (E-mail: sequencepoe.cns.fr - Web: www.genoscope.cns.fr)
This GSS is part of a random genomic sequencing program of thirteen yeast species: Saccharomyces bayanus var. uvarum, Saccharomyces exiguus, Saccharomyces servazzii, Zyosaccharomyces rouxii, Saccharomyces kluyveromyces thermotolerans, Kluyveromyces saccharomyces kluyveromyces marxianus var. marxianus, Pichia angusta, Debaryomyces hansenii var. hansenii, Pichia sorbitophila, Candida tropicalis and Yarrowia lipolytica. Genomic inserts of 3 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 (bases 1 to 998)
Souciet, J., Aigle, M., Artiguenave, F., Blandin, G.,
Souciet, J., Aigle, M., Bon, E., Brottier, P., Casaregola, S., de
Bolotin-Fukuhara, M., Bon, E., Brottier, P., Casaregola, S., de
Montigny, J., Dujon, B., Durrens, P., Gaillardin, C., Lepingle, A.,
Llorente, B., Malpertuy, A., Neuveglise, C., Ozier-Kalogeropoulos, O.,
Potier, S., Saurin, W., Tekaia, F., Toffano-Niche, C.,
Wesolowski-Louvel, M., Wincker, P. and Weissenbach, J.
Genomic exploration of the hemiascomycetous yeasts: 1. A set of
yeast species for molecular evolution studies
  v
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Debaryomyces hansenii var. hansenii
PEBS Lett. 487 (1), 82-86 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Debaryomyces hansenii var. hansenii
Debaryomyces hansenii var. hansenii
Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  T7 end of clone BCOAA010A01 of library BCOAA fr
Debaryomyces hansenii, genomic survey sequence.
AL437546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AL437546.1 GI:12220959 GSS.
                                                                                                                                                                                                                                                                                                                                                                                    5 kb were prepared and both extremities were sequenced. See keywords for description of this sequence and for the sequence of the other extremity of this insert.
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                                                                                                                                                           /db xref="taxon:58641"
/clone="BCOAAO10AO1"
/clone_lib="BCOAA"
/note="end: T7"
                                                                                                                                                                                                                                                                           /organism="Debaryomyces
/mol_type="genomic DNA"
/strain="CBS 767"
                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                     'variety="hansenii"
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Pred. No. 4.6e+03;
                                                                  Score 19.8; DB 14;
Pred. No. 4.6e+03;
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library BCOAA from strain CBS 767 of
                                                                                                                                                                                                                                                                                                                      hansenii var. hansenii"
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                AUTHORS
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Brassica rapa subsp. pekinensis

Brassica rapa subsp. pekinensis

Brassica rapa subsp. pekinensis

sukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
                                                                                                                                                                                    p5rmgcr_004935 Normalized Magnaporthe grisea cDNA pGEM-T Easy
library Magnaporthe grisea cDNA clone p5rmgcr_004935, mRNA
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GSS; genome survey seque
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Brassica rapa subsp. pekinensis GSS, clone KB
primer M13 (forward), genomic survey sequence.
AJ854876
1 (bases 1 to 170)
Chen,B., Li,Y., Peng,Y., Dong,H. and Li,D.
Large-scale identification of ESTs from Ma
normalized cDNA library sequencing
                                                                Eukaryota; Fungi; Ascomycota;
Sordariomycetes incertae sedis
                                                                                                 Magnaporthe grisea (anamorph: Pyricularia grisea)
Magnaporthe grisea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 John Innes Centre Norwich Research
Tel: +44 1603 450843
Fax: +44 1603 450021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (05-NOV-2004) Beckett P., (Innes Centre, Norwich Research Park,
                                                                                                                                                       CK928648.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BAC End sequence
M13(forward)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Contact: Ian Bancroft
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Email: ian.bancroft@bbsrc.ac.uk
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7UH, UNITED KINGDOM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone="KBrH051F18"
/clone_lib="Brassica rapa BAC
pCUGIBac1; Site_1: HindIII"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Brassica rapa subsp. pekinensis"
/mol_type="genomic DNA"
/cultivar="Chiifu"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       species="pekinensis"
db_xref="taxon:51351"
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Pred. No. 4.
                                                                  sedis; Magnaporthaceae;
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                                                                                    Pezizomycotina; Sordariomycetes;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and Beckett, P.
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S, clone KBrH051F18, e
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                  Magnaporthe grisea by
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                                                                    Magnaporthe.
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                                                                                                                                                                                                                                                                                                             Hominidae; Homo.

1 (bases 1 to 232)

1 (bases 1 to 232)

Dias Neto, B., Garcia Correa, R., Verjovski-Almeida, S., Briones, M.R., Dias Neto, B., Garcia Correa, R., Verjovski-Almeida, S., Briones, M.R., Nagai, M.A., da Silva, W. Jr., Zago, M.A., Bordin, S., Costa, F.F., Goldman, G.H., Carvalho, A.F., Matsukuma, A., Baia, G.S., Simpson, D.H., Brunstein, A., deOliveira, P.S., Bucher, P., Jongeneel, C.V., O'Hare, M.J., Soares, F., Brentani, R.R., Reis, L.F., de Souza, S.J. and Simpson, A.J.
Email: asimpson@ludwig.org.br
This sequence was derived from the FAPESP/LICR Human Cancer Genome
Project. This entry can be seen in the following URL
(http://www.ludwig.org.br/scripts/gethtm12.pl?tl=PM2&t2=PM2-NN0169-
190301-006-b03&t3=2001-03-19&t4=1)
Seq_primer: puc 18 forward
                                                                                                                                                                 Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
Rua Prof. Antonio Prudente 109, 4 and
                                                                                                                                                                                                                                                                             Shotgun sequencing sequence tags
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BI034170.1
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PM2-NN0169-190301-006-b03
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Email: chenbs@nn.gx.cninfo.net,
Seq primer: M13 forward primer.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Laboratory of Subtropical Bioresource Conservation Guangxi University, China Agricultural University,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished (2004)
                                                                                                                                                     Brazi
                                                                                                                                                                                                                           Contact: Simpson A.J.G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fax: 0086-771-3237873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Daxue Road 100#, Nanning, Guangxi, 530004, China
                                                                                                                                Tel: +55-11-2704922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                               +55-11-2707001
                                                                                                                                                                                                                                                               . Natl. Acad. Sci. U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /dev stage="Mycellium, conidium, germinating conidium, swelling appressorium, mature appressorium, penetration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Magnaporthe grisea"
/mol type="mnn:148305"
/db_xref="rtaxon:148305"
/clone="p5rmgcr_004935"
/tissue_type="Mycellium, conid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          swelling appressorium, mature appressorium,
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84.6%;
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Pred. No. 5.
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3 NN0169
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                                                                                                                                                                                                                                                             (7),
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COMMENT
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VERSION
KEYWORDS
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DV017521/c
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                                                                                              source
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Zinnia elegans
Zinnia elegans
Zinnia elegans
Zinnia elegans
Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, eudicotyledons, core eudicotyledons,
asterids, campanulids, Asterales, Asteraceae, Asteroideae,
Heliantheae, Zinnia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3 CATTATTGTTATAGTTTGTATGGAAC 28
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DV017521
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BACKWARD: AGCTGGTCGCGCCGAGGT
Insert Length: 297 Std Exror:
Plate: 2p row: e column: 05
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Novel markers of xylogenesis in zinnia are
                                                                                                                                                                                                                                                                                                                                     Email: goffner@scsv.ups-tlse.fr
EST from differentiating TE SSH
                                                                                                                                                                                                                                                                                                                                                                            Tel: 33 5 62 19 35 23 Fax: 33 5 62 19 35 02
                                                                                                                                                                                                                                                                                                                                                                                                                 signalisations chez les vegetaux
Pule de Biotechnologies Vegetales, 24
17 Auzeville, 31326 CASTANET-TOLOSAN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  UMR 5546 CNRS/Universite Paul Sabatier Surfaces cellulaires et
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Location/Qualifiers
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                     /db_xref="taxon:34245"
/clone="2p-e5"
                                                              /mol_type="mRNA"
/cultivar="Envy"
                                                                                                                                            Location/Qualifiers
                                                                                                   organism="Zinnia elegans"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  organism="Homo
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84.6%;
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_xref="taxon:9606"
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ne_lib="NN0169"
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Pred. No. 5.4e+03;
differentiating
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A clone
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      cultures"
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Xia,Q., Zhou,Z., Lu,C., Cheng,D., Dai,F., Li,B., Zhao,P., Zha,X.,

Cheng,T., Chai,C., Pan,G., Xu,J., Liu,C., Lin,Y., Qian,J., Hou,Y.,

Wu,Z., Li,G., Pan,M., Li,C., Shen,Y., Lan,X., Yuan,L., Li,T.,

Xu,H., Yang,G., Wan,Y., Zhu,Y., Yu,M., Shen,W., Wu,D., Xiang,Z.,

Yu,J., Wang,J., Li,R.Q., Shi,J.P., Li,H., Li,G.Y., Su,J.N.,

Wang,X.L., Li,G.Q., Zhang,Z.J., Wu,Q.F., Li,J., Zhang,Q.P., Wei,N.,

Xu,J.Z., Sun,H.B., Dong,L., Liu,D.Y., Zhao,S.L., Zhao,X.L.,

Meng,Q.S., Lan,F.D., Huang,X.G., Li,Y.Z., Fang,F., Li,C.F.,

Li,D.W., Sun,Y.Q., Zhang,Z.P., Yang,Z., Huang,Y.Q., Xi,Y., Qi,Q.H.,

He,D.D., Huang,H.Y., Zhang,X.W., Wang,Z.Q., Li,W.J., Cao,Y.Z.,

Yu,Y., Yu,H., Ji,H., Ye,J., Chen,H., Zhou,Y., Liu,B., Wang,J.,

Ye,J., Ji,H., Li,S., Wi,P., Zhang,J., Zhang,Y., Zheng,H., Mao,B.,

Mao,B., Ye,C., Li,S., Wang,J., Wong,J., Zhang,Y., Zheng,H., Mao,B,

Mao,B., Ye,C., Li,S., Wang,J., Wong,J., Zhang,Y., Zheng,H., Mao,B,

Mao,B., Ye,C., Li,S., Wang,J., Wong,J., Zhang,Y., Zheng,H., Mao,B,

Mao,B., Ye,C., Li,S., Wang,J., Wong,G.K. and Yang,H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     299 bp rswla0_015679.yl swl Bombyx mori CK553998 CK553998.1 GI:40938452
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Bombyx mori
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Neoptera; Endopterygota; Lepidop
Bombycoidea; Bombycidae; Bombyx.
1 (bases 1 to 299)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Southwest Agricultural Chongqing Beibei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A draft sequence for the genome of the domesticated silkworm (Bombyx mori) Science 306 (5703), 1937-1940 (2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Lepidoptera; Glossata; Ditrysia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
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                                                                                                                                                                                                                                                                                                                                                                  xzh@swau.cq.cn.
Location/Qualifiers
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/clone | The "PixI" | Site 1: Sall, Site 2: NdeI; IXI |
/note="Vector: pgBM-T; Site 1: Sall, Site 2: NdeI; IXI |
/note="Vector: pgBM-T; Site 1: Sall, Site 2: NdeI; IXI |
/note="Vector: pgBM-T; Site 1: Sall, Site 2: NdeI; IXI |
/note="Vector: pgBM-T; Site 1: Sall, Site 2: NdeI; IXI |
/note="Vector: pgBM-T; Site 1: Sall, Site 2: NdeI; IXI |
/note="Vector: pgBM-T; Site 1: Sall, Site 2: NdeI; IXI |
/note="Vector: pgBM-T; Site 1: Sall, Site 2: NdeI; IXI |
/note="Vector: pgBM-T; Site 1: Sall, Site 2: NdeI; IXI |
/note="Vector: pgBM-T; Site 1: Sall, Site 2: NdeI; IXI |
/note="Vector: pgBM-T; Site 1: Sall, Site 2: NdeI; IXI |
/note="Vector: pgBM-T; Site 1: Sall, Site 2: NdeI; IXI |
/note="Vector: pgBM-T; Site 1: Sall, Site 2: NdeI; IXI |
/note="Vector: pgBM-T; Site 1: Sall, Site 2: NdeI; IXI |
/note="Vector: pgBM-T; Site 2: NdeI; IXI |
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/lab_host="E.coli DH5alpha"
/tissue_type="Fat body (pupa)"
/dev stage="p0"
/clone lib="sw1"
/note="Vector: pBluescript II SK(+)"
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/db_xref="taxon:7091"
/sex="mixed"
                                                                                                                                                                                                                                                                                            organism="Bombyx mori"
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84.6%;
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Pred. No. 5.4e+03;
0; Mismatches 4;
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REFERENCE AUTHORS

SOURCE

ORGANISM

KEYWORDS VERSION ACCESSION DEFINITION

ORIGIN

FEATURES

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COMMENT

JOURNAL PUBMED

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RESULT 48 CK553998/c

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ORIGIN

Matches

Best Local Query Match

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Query Match
Best Local
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Best Local
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Danio rerio (zebrafish)
Danio rerio
Danio rerio
Danio rerio
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleost.
Actinopterygii; Neopterygii; Teleostei; Ostariophysi;
Cypriniformes; Cyprinidae; Danio.
1 (bases 1 to 340)
Clark, M., Johnson, S.L., Lehrach, H., Lee, R., Li, F., Marra, M., Eddy, S., Hillier, L., Kucaba, T., Martin, J., Beck, C., Wylie, T., Underwood, K., Steptoe, M., Theising, B., Allen, M., Bowers, Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                         22;
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                                                                                                                                                                                                                              340 fx17a03.y1 Zebrafish SJD day IMAGE:5620108 5' -----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Center For Genetic Resource Information
National Institute of Genetics
1111 Yata, Mishima, Shizuoka 411-8540, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished (2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kohara,Y., Shin-i,T., Kimura,T., N
Medaka EST Project in Takeda's lab
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei; Acanthomorpha; Acanthopterygii; Percomorpha; Atherinomorpha; Beloniformes; Adrianichthyidae; Oryzinae; Oryzias.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Oryzias latipes (Japanese medaka)
Oryzias latipes
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BJ724011.1 GI:45265103
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                                                                                                                                                                                        BM857946.1 GI:19225628
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                                                                                                                                                                                                                              IMAGE:5620108 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Tadasu Shin-i
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Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /db_xref="taxon:8090"
/clone="MF01FFA031d06"
/sex="mixture of female and m
/tissue_type="whole embryo"
/dev_stage="fry_stage_40"
/clone_lib="MF01FFA_CDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Oryzias latipes"
/mol_type="mRNA"
/strain="Hd-rR"
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Pred. No. 5.
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                                                                                                                                                                                                                                                embryo Danio rerio cDNA clone
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••
                                                                                                Vertebrata; Euteleostomi; Ostariophysi;
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Search completed: May 24, 2006, 07:53:49 
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                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 22; Conserv
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WashU Zebrafish EST Project 1998
Unpublished (1998)
Contact: Stephen L. Johnson
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
Tel: 314 286 1810
Fax: 314 286 1810
                                                                                                                                                         1 GACATTATTGTTATAGTTTGTATGGAA 27
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cDNA Library construction by: Joe Barnes and Steve Johnson. DNA
Sequencing by: Washington University Genome Sequencing Center Clone
distribution: RessourcenZentrumPrimarDatenbank, Berlin, Germany
(web address: www.rzpd.de)
zebrafish identity (p-value greater than 1e-99) found to:
gi|3461292|gb|AII05787|AII05787 db03d09_p1 ZF adult heart library
Danio rerio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seq primer: T3 ET from Amersham High quality sequence stop: 318. Location/Qualifiers
                                                                                                                      GACCTTTTTGTTATAGTGTTTATGNAA 48
                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                 5'-aagcagtggraaccacgcagggtacttt-tttttttttvn-3'. cDNA was subsequently amplified in a 7-cycle PCR with the following primers: 5'-ggccgctaatacgactcactatag-3' and 5'-aagcagtggt-aacaacgcag. Deoxy-UMP adaptors were added in a third PCR (5 cycles) and the primers 5'-caucaucaucaugucggccgctaatacgactcactataggg-3' and 5'-caucaucaucaaggcagtggtaacaacgcagagtac-3'. Ends were 5'-cuacucaucaagcagtggtaacaacgcagagtac-3'. Ends were treated with uracil DNA glycosylase and product with 3' overhangs was annealed to complementary ends of pAMP1. Insert can be excised using EcoRI and NotI. Library constructed by Joe Barnes and Steve Johnson (Washington University)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone libe"Zebrafish SJD day 3 embryo"
/clone libe"Zebrafish SJD day 3 embryo"
/note="Vector: pAMP1; Site_1: EcoRI; Site_2: NotI; First
strand cDNA synthesis was primed using oligo-dT on
magnetic beads with an additional primer
5'-gcggccgctaatacgactcacta-taggg-3'. Second strand
synthesis was a 3-cycle PCR using the primers
5'-ggccgctaatacgactcactatag-3' and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone="IMAGE:5620108"
/tissue_type="embryo, day 3"
/lab_host="DH10B"
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/mol_type="mRNA"
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                                                                                                                                                                                                                                                                   70.0%;
81.5%;
                                                                                                                                                                                                                                       Score 19.6; DB 3;
Pred. No. 5.4e+03;
0; Mismatches 5;
                                                                                                                                                                                                                                                                                               Length 340;
                                                                                                                                                                                                                                             Indels
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Result
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Maximum
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
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   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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1: geneseqn198:
2: geneseqn200
4: geneseqn200
6: geneseqn200
6: geneseqn200
7: geneseqn200
9: geneseqn200
10: geneseqn201
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RESULT 1
AAT72389;
ID AAT72389;
XX
AC AAT72389;
XC AAT72389;
XT 09-FEB-1998 (first entry)
XX
DE Human Papillomavirus Type 18 tar
XX
DE Human Papillomavirus; probe; tar
XX
Cervical smear; ss.
XX
CHUMAN Papillomavirus.
XX
PN EP774518-A2.
XX
PN EP774518-A2.
XX
PN EP7745197.
XX
PN EP774518-A2.
XX
PN GENP-) GEN-PROBE INC.
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PA (GENP-) GEN-PROBE INC.
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PT GORdon P, Brentano ST, Carter
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                                          Probes for detection of Human Papillomavirus Type 16 and Type 18 - can distinguish between Type 16 and 18, associated with genital cancers.
                                                                                                                                                                                                                                                                             Human Papillomavirus Type 18 target region
                       Claim 16; Page 61; 70pp; English
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170506
176594
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ACC50506
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AAH42399
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ACD45332
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Abv56062 Human pro
Abk62800 Rat seque
Acn45597 Cotton pr
Adn74362 Thale cre
Add18740 Plant cDN
Adr41251 Human CD-
Azs65342 Human sec
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Aah42399
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Abs77115 Frog embr
Aed12478 Anti-Nogo
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Adc90401
Aed12469
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Acd45332 Anti-Rh(D
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Novel hybridisation assay probes have been developed comprising an

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ART/239
ART/239
ART/239
ART/239
ID ART/73
XX ART/73
AC ART/7
XX ART/7
XX ART/7
XX Huma
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XX Synt
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                                        Novel hybridisation assay probes have been developed comprising an oligonucleotide which will hybridise under selected conditions to Human papillomavirus (HPV) Type 16 and/or 18 (but not Types 6, 11, 31, 33, 35, 39, 45, 51, 52, or 58) target nucleic acids to form detectable target: probe duplex. The present sequence represents a specifically claimed helper probe. Oligonucleotides are useful to detect HPV Type 16 and/or 18 in samples e.g. cervical smears, body fluid, and distinguish these from other HPV variants. Papillomaviruses are small DNA viruses and HPV Types 16 and 18 are associated with genical cancers. HPV PC primers can the property of the primers can be considered to the pri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 20; Page 60; 70pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Probes for detection of Human Papillomavirus Type 16 and Type 18 -distinguish between Type 16 and 18, associated with genital cancers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human Papillomavirus Type 18 helper
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       oligonucleotide which will hybridise under selected conditions to Human
     amplify HPV Type 16
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Pred. No. 9.2
0; Mismatches
          nucleic acid in a sample.
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Pred. No. 9.2e-05;
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Sequence 32 BP; 9 A; 7 C; 8 G; 0 T; 8 U; 0 Other;

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RESULT 4
ANT72330/c
ID ANT723
XX ANT723
XX ANT723
XX ANT723
XX Human
XX Human
XX Human
XX EP7745
XX EP7745
XX EP7745
XX EP7745
XX GORDON
PR 15-NOV
XX IS-NOV
PR 15-NOV
XX GORDON
PR WPI; 1
XX WOLST
PT Probes
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XX Claim
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                                                                                                                                                                                                                                CC Novel hybridisation assay probes have been developed comprising an CC oligonucleotide which will hybridise under selected conditions to Human CC Papillomavirus (HPV) Type 16 and/or 18 (but not Types 6, 11, 31, 33, 35, CC 39, 45, 51, 52, or 58) target nucleic acids to form detectable target: CC probe duplex. The present sequence represents a specifically claimed CC target sequence. Oligonucleotides are useful to detect HPV Type 16 and/ CC or 18 in samples e.g. cervical smears, body fluid, and distinguish these CC from other HPV variants. Papillomaviruses are small DNA viruses and HPV CT Type 16 and/or 18 nucleic acid in a sample. HPV Type 16 and/or 18 nucleic acid in a sample. HPV Type 16 and/or 18 can be detected by adding a probe and detecting probe:target CC duplex formation; target nucleic acid is optionally amplified. Type 16 cone specifically claimed PCR primer. For Type 18 detection, a helper CC probe may be used. Oligonucleote can distinguish target sequences from CC phylogenetically claimed PCR primer. For Type 18 detection, a helper CC probe may be used. Oligonucleote and is shilst available detection CC sera react with antigens of all papillomaviruses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local &
                                                               Matches
                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human Papillomavirus; probe; target region; genital cancer; HPV, cervical smear; ss.
                                                                                                                                                                                 Sequence 32 BP; 8 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Probes for detection of Human Papillomavirus Type 16 and Type 18 - distinguish between Type 16 and 18, associated with genital cancers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human papillomavirus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 16; Page 61; 70pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1997-274349/25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gordon P, Brentano ST,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-NOV-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-NOV-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-MAY-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human Papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (GENP-) GEN-PROBE INC
                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                               32;
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   TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
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                                                                                                                                                                                 8 C; 7 G; 0 T; 9 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Type 18
                                                                                           100.0%;
                                                                                                                     100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Carter NM,
                                                               <u>,</u>
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                                                                                              Score 32;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  32; DB 2;
No. 9.2e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    region.
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                                                                                        9.2e-05
                                                                                                                           DB 2;
                                                                                                                     Length 32
                                                                  Indels
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RESULT 6
AAZ27568
ID AAZ2
XX
AC AAZ2
XX
AC AAZ2
XX
AC HPV-
XX
DE HPV-
XX
UDig Ubig
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AAQ97848
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Best Local S
Matches 32
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23-MAY-1994;
27-MAY-1994;
13-SEP-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HPV-18 E6 cDNA (given in AAQ97848) was amplified from a HeLa cell cDNA library using the primers given in AAQ97846-47. The gene was subcloned into a baculovirus vector for expression of recombinant E6 in Sf9 insectells for use as a component of an in vitro ubiquitin conjugating syst (Updated on 25-MAR-2003 to correct PN field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Identifying inhibitors of ubiquitin mediated proteolysis of cell cycle regulatory proteins - also new ubiquitin conjugating enzymes, their related nucleic acid, vectors, antibodies etc., useful for regulating e.g. cell proliferation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-MAR-2003
06-DEC-1995
                                              HPV-18 E6 coding sequence
                                                                                                                                                    AAZ27568;
                                                                                                                                                                                                        AAZ27568 standard; cDNA; 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Draetta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ubiquitin-conjugating enzyme; HPV-18 E6 protein;
cell proliferation; cancer; psoriasis; fibrosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HPV-18 E6 cDNA.
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Ubiquitin conjugating enzyme;
                                                                                                     15-DEC-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BP; 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (revised)
(first en
                                                                                                     (first entry)
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94US-00247904.
94US-00250795.
94US-00305520.
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Pred. No.
     UbCE; ubiquitin-mediated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100 G; 118 T; 0 U; 0 Other;
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                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 476;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gyuris
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  proteolysis;
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AAAGULT 7
AAAAG1623
ID AAAAG
XX AAAG
XX AAAG
XX AAAG
XX 23-C
DT 23-C
XX CDNA
XX CDNA
XX HPV-
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                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                            This sequence encodes the human papillomavirus E6 protein. The invention CC relates to assays for identifying an inhibitor of ubiquitin-mediated proteolysis of a cell-cycle regulatory protein comprising contacting a CC candidate agent with an ubiquitin-conjugating system and measuring the CC level of ubiquitination. The ubiquitin-conjugating system comprises: (a) CC a reconstituted protein mixture including a ubiquitin conjugating enzyme (UDCE) produced by the expression of a nucleic acid which hybridizes CC under high stringency conditions to human UDCE, Candida albicans UDCE, or Schizosaccharomyces pombe UDCE coding sequences; (b) a regulatory protein (c) and (c) ubiquitin. The polynucleotides are useful for identifying CC ubiquitination inhibitors. The polynucleotides, polypeptides, antisense CC treatment and/or diagnosis of proliferative disorders (e.g. cancer, CC treatment and/or diagnosis of proliferative disorders (e.g. cancer, CC atherosclerosis, or restenosis), tissue connective disorders, controlling wound healing, and disorders characterized by fibrosis (e.g. rheumatoid citypics and coloroders (alabetes mellitus, glomerulonephritis,
                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           04-JAN-1994;
23-MAY-1994;
27-MAY-1994;
13-SEP-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cell-cycle regulatory protein; ubiquitination inhibitor; atherosclerosis; proliferative disorder; cancer; restenosis; tissue connective disorder; wound healing; fibrosis disorder; rheumatoid arthritis; scleroderma; insulin dependent diabetes mellitus; glomerulonephritis; cirrhosis; diagnosis; therapy; E6; ds.
                                             cDNA encoding HPV-18 E6 protein.
                                                                           15-SEP-2003
23-OCT-2000
                                                                                                                          AAA61623;
                                                                                                                                                       AAA61623
                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07-JUN-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Identifying ubiquitination inhibitors using novel ubiquitin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (-OTIM)
                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                   1 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                             l Similarity
32; Conserv
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                                                                                                                                                       standard;
                                                                                                                                                                                                                                                                                                                                                         476 BP; 163 A; 95 C;
                                                                                                                                                                                                                                   TTATTAATAAGGTGCCTGCGGTGCCAGAAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cottarel G,
                                                                                                                                                                                                                                                                                                                                                                                           and scleroderma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Col 89-92; 61pp; English.
                                                                                                                                                                                                                                                                                             100.0%;
llarity 100.0%;
Conservative
                                                                          (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94US-00176937.
94US-00247904.
94US-00250795.
94US-00305520.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          95US-00486663
                                                                                                                                                       CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Berlin
                                                                                                                                                                                                                                                                                                                            .04;
                                                                                                                                                         476
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                                                                                                                                                                                                                                                                                                              Score 32;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                            100 G;
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                                                                                                                                                                                                                                                                                               Mismatches
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                                                                                                                                                                                                                                                                                                                                                           118 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                               0.00016;
                                                                                                                                                                                                                                                                                                                              DB 2;
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                                                                                                                                                                                                                                                                                                                            Length 476;
                                                                                                                                                                                                                                                                                               Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                       controlling
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
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HPV-18 E6; ubiquitin mediated proteolysis; cellular protein half life; ubiquitination inhibitor; p53; cyclin; cell cycle regulator;

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myc deregulation; human papillomavirus; HPV-18 E6 protein; cervital cancer; skin cancer; epidermal hephasia; epidermal neoplasia; psoriasis, connective tissue disorder, wound healing; cytostatic; antiproliferative; anticancer; antipsoriatic; ss.
papillomavirus; 18
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30-MAY-2000 US6068982-A. Location/Qualifiers product= "HPV-18 E6 protein"
note= "No stop codon given in the specification" partial *tag= a

(-OTIM) MITOTIX INC 94US-00250795. 94US-00305520. 95US-00486663.

13-SEP-1994; 27-MAY-1994;

04-JAN-1994; 23-MAY-1994;

94US-00176937 94US-00247904 96US-00767942

17-DEC-1996;

Chiu MI Cottarel G, Berlin V, Draetta G, Damagnez V, Rolfe M;

2000-410854/35 AAB03176.

the protein in the presence of candidate agent an inhibitor of ubiquitin mediated proteolysis of regulatory treating cancers involves measuring ubiquitination levels of in the presence of candidate agent in an eukaryotic cell.

Example 2; Col 97-98; 73pp; English.

CC Candida albicans or Schizosaccharomyces pombe ubiquitin-conjugating consume (AAB03169-B03171), a cell cycle regulatory protein (such as p53) cc and whiquitin. The specification also discloses novel Candida albicans of chizosaccharomyces pombe ubiquitin-conjugating enzymes, caUbCE and spUbCE (AAB03170, AAB03171), and two novel human ubiquitin-conjugating cc enzymes, hUbCE and rapUBC (AAB03169, AAB03173). The ubiquitin-conjugating cc enzymes, hUbCE and rapUBC (AAB03169, AAB03173). The ubiquitin-mediated CC proteolysis system is the major pathway for the selective, controlled CC degradation of intracellular proteins in eukaryotic cells. In particular, cc this system controlls the half-lives of cellular proteins, and is comportant in controlling the levels of proteins involved in cell cycle progression. Alterations in the ubiquitination of these proteins may comportant in controlling the levels of proteins involved in cell cycle progression. Alterations in the development of cancers. For example, human cc papillomaviruses such as HV-18 encode a transforming protein. B6 CC (AAB03176), which combines with a cellular B6-associated protein (B6-AP; capacitive tissue disorders and for controlling the wound healing to the invention are useful for treatment of cervical cancers and concers e.g., basal cell carcinomas, squamous cell carcinomas. The cancers e.g., basal cell carcinomas, squamous cell carcinomas. The cellus sensitive to chemotherapeutic treatment of hyperplastic epidermal concers and cause apoptosis to occur. Inhibitors of ubiquitin-confice the brance of cyclins are useful as antiproliferative agents. The present sequence represents cDNA encoding HPV-18 E6 protein. Note: The present sequence is referred to as SEQ ID NO:18 in the examples, but to standardise OS field) ubiquitin-mediated proteolysis of a cell cycle regulatory protein comprising contacting an engineered eukaryotic cell with a candidate The invention relates to a method of identifying an inhibitor The eukaryotic cells is engineered to express a recombinant human

Query Match
Best Local Similarity
Matches 32; Conserv

Conservative

0

Mismatches

100.0%; A; 96 C;

Score 32; Pred. No.

0.00016;

DB 10;

Length 477; Indels

0,

Gaps

0

477

BP;

163

100

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T; 0 U; 0

Other;

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                                      The invention relates to a novel method for selective post-translational CC silencing in a mammalian cell of the expression of an exogenous gene of cviral origin. The method comprises introducing into the cell a small CC interfering RNA (siRNA) construct that is homologous to a part of the RNA sequence of the gene. The method is useful for the selective post-cc transcriptional silencing of an exogenous gene of viral origin (e.g. an CC oncogene or human papilloma virus (HPV) gene) in a mammalian cell. The CC method or the siRNA is particularly useful for treating cancer, human cc cervical cancer, human immunodeficiency virus (HIV), smallpox, flu, CC common cold, or a disease caused by a HPV (e.g. genital warts, cervical cancer, penile cancer, malignant squamous cell carcinomas or verruca cougaris). An siRNA construct or vector is useful for use as a medicament CC tor the disease mantioned. The polynucleotide sequence of the invention CC can be used to treat disorders by gene therapy. This polynucleotide course invention cross sequence represents the DNA of a HPV siRNA sequence of the invention cross course of the invention cross course cour
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Virucide; cytostatic; anti-HIV; dermatological; small interfering RNA; selective post-translational silencing; siRNA; oncogene; genital wart; human papilloma virus; HPV gene; cancer; human cervical cancer; HIV; smallpox; flu; common cold; cervical cancer; penile cancer; malignant squamous cell carcinoma; verruca vulgaris; gene therapy; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 476 BP; 163 A; 95 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Selective post-transcriptional silencing of an exogenous viral gene (e.g human papilloma virus (HPV) E6), for treating e.g. cancer, comprises using a small interfering RNA (sirNA) construct homologous to an mRNA of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-JUL-2001; 2001GB-00017358
14-JAN-2002; 2002GB-00000688
17-JUN-2002; 2002GB-00013855
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 11; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (MILN/) MILNER A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 476;
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RESULT 9
ADO44101
ID ADO4
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                           8
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                                                                              Query Match
Best Local !
                                                                                                                                                 The present sequence encodes an E6 polypeptides from human papillomavirus type 18 (HPV18). The specification describes human papillomavirus E6 and E7 polypeptides, where the E7 polypeptide has mutations at any one or more of the amino acids corresponding to amino acids 24, 26 or 91 of the sequence given in ADO44073 and the E6 polypeptide has no mutations or has mutations at any one or more of the amino acids corresponding to amino acids 33 or 106 of there sequence given in ADO44072. The polypeptides of the invention are useful for treating or preventing human papillomavirus (HPV)-associated cancers, such as cervical cancer. The fusion proteins and nucleic acids encoding the fusion proteins are useful for generating immune responses against HPV. They are also useful for treating lower gastrointestinal tract cancers, e.g. anal cancer, and other cancers of the reproductive system, including penile and vulvar cancer.
                                                                                                                                                                                                                                                                                                                                                                                                         New polypeptide comprising human papillomavirus E6 and useful for treating or preventing human papillomavirus cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      E6 protein; E7 protein; fusion protein; HPV16; HPV-associated cancer; cervical cancer; immune response; lower gastrointestinal tract cancer; anal cancer; reproductive system cancer; penile cancer; vulvar cancer;
                                                                                                                         Sequence 477
                                                                                                                                                                                                                                                                                                                                                                               Disclosure; Page 94; 101pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     03-OCT-2002; 2002US-0415929F
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADO44101;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2004-316328/29.
DB; ADO44074.
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 301
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                                                                              Similarity
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                             TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cassetti MC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequence of the E6 polypeptide of HPV18.
                                                                                                                         BP; 164 A; 96 C;
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1. .477
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/product= "E6 polypepyide"
                                                                           100.0%;
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                                                         Score 32; DB LL,
Pred. No. 0.00016;
                                                                                                                         99 G; 118 T; 0 U; 0 Other;
                                                                                          Length 477;
                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                           E7 polypeptides, (HPV)-associated
                                                            0,
                                                            Gaps
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AAQ75471
ID AAQ7
XX
AC AAQ7
XX
AC AAQ7
XX
D7 16-C
D7 25-D
D7 28-C
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                                                                                                                                                                                                                                                                                                                                                                     RESULT 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                            16-OCT-2003
25-MAR-2003
28-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present invention relates to a method and composition comprising a transfer agent and a solid or colloidal carrier medium for delivering biological agents into cells. The invention is useful for the treatment of cancer, tumor, carcinoma of cutaneous, squamous or cervical ppithelia and colorectal carcinoma, wounds, burns and scars. The invention is also useful in gene therapy. The present sequence is the human papillomavirus type 18 E6/E7 gene fragment. This sequence is useful in a method for
HPV; HPV18; E6 cervix cancer;
                                                                                        HPV18 E6/E7
                                                                                                                                                                                                                                                            AAQ75471;
                                                                                                                                                                                                                                                                                                                 AAQ75471 standard; DNA; 483
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; SEQ ID NO 15; 56pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Composition useful for delivering an agent into a cell comprises agent, a transfer agent and a solid or colloidal carrier medium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2005-405310/41.
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05-MAR-2004; 2004US-0549919P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E6 gene.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Delivery mechanism; gene therapy; cytostatic; vulnerary; virucide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human papillomavirus type 18 E6/E7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11-AUG-2005
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AEA51111 standard; DNA; 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (MILN/) MILNER A J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    l Similarity
32; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          infection; cancer; gastrointestinal disease; ogy and obstetrics; tumor; colorectal tumor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              carcinomas.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 32; DB 14; ilarity 100.0%; Pred. No. 0.00016; Conservative 0; Mismatches 0;
                                                                                     proteins.
                                                                                                                                      (revised)
(revised)
(first entry)
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     protein;
                                E7
                             protein; diagnosis; cervical dyplasia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BP
                                                                                                                                                                                                                                                                                                                    ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100 G; 118 T; 0 U;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 477;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E7 gene; ds;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
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RESULT 12
AAN91786
ID 9786
ID 27-AU
DT 27-AU
DT 25-M9
DT 16-M9
XX DNA F
XX CETVI
XX CONTO
EPR 04-AI
PR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
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Best Local S
Matches 32
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25-MAR-2003
16-MAR-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The sequences of the E6 and E7 polypeptide-encoding regions of human papillomavirus (HPV) 16 and 18 are given in AAQ75470-71 and the encoded proteins in AAR63865-66, respectively. Probes and primers based on these sequences were used for HPV infection diagnosis; expression of E6 and E7 is diagnostic for cervical cancer or pre-malignant states. (Updated on 25-MAR-2003 to correct PN field.) (Updated on 16-OCT-2003 to standardise
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 483 BP; 167 A; 95 C; 100 G; 121 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human papilloma virus detection assay - by amplification using self sustained sequence replication and hybridisation with a detector probe.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Brown
                                                                     04-APR-1988;
31-MAR-1989;
                                                                                                                                          04-APR-1989;
                                                                                                                                                                                       19-OCT-1989.
                                                                                                                                                                                                                                      WO8909940-A.
                                                                                                                                                                                                                                                                                     Human papillomavirus
                                                                                                                                                                                                                                                                                                                                    Cervical cancer
                                                                                                                                                                                                                                                                                                                                                                                 DNA probe complementary to human papilloma virus type 18.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAN91786;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAN91786 standard; DNA; 802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 27-28; 79pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-MAY-1993;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO9426934-A2
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                        (ONCO-) ONCOR INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                      (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
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                                                                       88US-00177404
89US-00330381
                                                                                                                                             89WO-US001318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        93US-00058920.
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                                                                                                                                                                                                                                                                                     type 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D)
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Pred. No.
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DT 24-OC
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25-MAR-2003
09-MAR-1993
  WPI; 1992-349219/42.
P-PSDB; AAR27726, AAR27727, AAR27728.
                                                                                                                                                                  14-MAR-1991;
                                                                                                                                                                                                                                                               01-OCT-1992.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 802 BP; 269 A; 158 C; 182 G; 193 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Obtd. by cutting HPV18 with BamHI and Sau3A. The patent describes probes (DNA or RNA) and their complements capable of detecting one or a combination of HPV types 6, 11, 16, 18, 31, 33 and 35. (Updated on 25-MAR -2003 to correct PR field.) (Updated on 27-AUG-2003 to correct OS field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rapid detection of specific human papilloma virus genotypes - by hybridisation of DNA digest with new labelled nucleic acid probes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1989-324314/44.
                                                                         Boursnell MEG,
                                                                                                                                                                                                                10-MAR-1992;
                                                                                                                                                                                                                                                                                                         WO9216636-A1
                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAQ29390;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                immunotherapeutic; ss.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 papillomavirus; 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            32;
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                                                                                                                      IMMUNOLOGY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 32; DB 1; llarity 100.0%; Pred. No. 0.00018; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                92WO-GB000424
                                                                    Inglis SC,
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/note= "third
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/note= "reading frame
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/note= "reading
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note= "reading
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RESULT 14
AAX78800
ID AAX78
XX AAX78
AC AAX78
DT 06-Si
XX HPV
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Best Local 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The fragment of DNA contg. the HPV-18 B6/B7 coding region was prepd. by PCR from plasmid pBR322/HPV18 (Boshart et al., EMBO J. 3: 1151) using oligonucleotides SO1 and SO2. The DNA prod. has a site for Nco1 at the beginning of the E6 gene and a Smal site immediately downstream of the termination codon for E7. The E6 and E7 DRFs are fused together to form a single continuous ORF via site directed mutagenesis and the immortilising potential of E7 is removed by altering two key codons of the HPV E7 sequence. The single ORF of HPV-18 E6/E7 may be inserted into vaccinia virus DNA at neutral sites (pref. by inserting two sets of the DNA in opposite orientations to overcome the problem of intertypic recombination) to make a recombinant virus vector for use immunotherapeutically to activate cells of the immune system against HPV. See also AAQ29385-400 and AAQ2940-69. (Updated on 25-MAR-2003 to correct PN field.) (Updated on 24-OCT-2003 to standardise OS field)
AAX78791-X78801 represent nucleic acid sequences which encode novel constructs comprising an E6 or E7 protein or E6/E7 fusion protein f HPV (represented in AAY25375-Y25386). These constructs are optional
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fusion protein; E6 protein; E7 protein; E6/E7; immunomodulator; tumour; immunological fusion partner; CpG oligonucleotide; immune response; HPV antigen; prevention; treatment; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Recombinant virus vectors encoding human papillomavirus proteins - for treating and vaccinating against HPV infections and conditions caused them, such as cervical cancer.
                                                                                                                                                                         Composition comprising induce immune response
                                                                                                                                                                                                                                                                                                                                                  Dalemans WLJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-JUL-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HPV fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAX78800 standard; DNA; 837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                               24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9933868-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                          (SMIK)
                                                                                                                                                                                                                                                                                         1999-405485/34.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                   XI; Page 59;
                                                                                                                                                                                                                                                                                                                                                                                                          SMITHKLINE BEECHAM BIOLOGICALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein D1/3-E6-His/HPV18 DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BP; 266 A; 173 C; 177 G; 201 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                  Gerard CMG
                                                                                                                                                                                                                                                                                                                                                                                                                                                               97GB-00027262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98WO-EP008563
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%;
                                                                                                                62pp; English
                                                                                                                                                                         t an
                                                                                                                                                                            HPV
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                                                                                                                                                                                                      E7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                      유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         32;
No.
                                                                                                                                                                                                      E6/E7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.00018;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   337
                                                                                                                                                                                                   fusion protein from HPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              °,
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  optionally
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                                                                       Query Match
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                                                                                                                     This sequence represents the coding region for a chimeric E6 or E7 protein or E6/E7 fusion protein from Human papillomavirus (HPV) linked the an immunological fusion partner, in this case, a fragment of the Haemophilus influenzae B protein D. The sequence also contains a histidine tag at the C-terminus of the encoded protein. The protein can be used in a vaccine, for immuno-therapeutically treating HPV induced tumour lesions (benign or malignant) and preventing HPV viral infection (Updated on 17-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linked to an immunological fusion partner and an immunomodulatory CpG oligonucleotide. The products of the invention can be used to induce a immune response in a patient to an HPV antigen. They can also be used preventing or treating HPV induced tumours
                                                                                               Sequence
                                                                                                                                                                                                                                  Disclosure; Fig 22; 95pp; English.
                                                                                                                                                                                                                                                          Human Papilloma Virus (HPV) fusion proteins - useful in vaccines treatment or prophylaxis of HPV induced lesions.
                                                                                                                                                                                                                                                                                                                                                                                                                      17-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                              04-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human papillomavirus.
Haemophilus influenza
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chimeric;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Prot.D1/3-E6-His/HPV18 coding sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-OCT-2003
22-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAX29789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAX29789 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                             22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO9910375-A2
                                                                                                                                                                                                                                                                                                                                                                     (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                                                                                                                                                                                                                                                   Lombardo-Bencheikh
                                                             Local
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                                                                                                                                                                                                                                                                                              1999-190587/16.
DB; AAY02641.
 634
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                                               l Similarity
32; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                        TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                               837 BP; 283 A; 169 C; 167 G; 218 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              837 BP; 283 A; 169 C; 167 G; 218 T; 0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E6; E7; fusion
                                                                                                                                                                                                                                                                                                                                              Cabezon Silva T,
                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          influenzae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                            97GB-00017953
                                                                                                                                                                                                                                                                                                                                                                                                                      98WO-EP005285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           benign;
                                                            100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            malignant; virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein; protein
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                                                            Score 32;
Pred. No.
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Pred. No. 0.00018
                                                 Mismatches
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                                                          0.00018;
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                                                                          DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              D; vaccine; immunotherapy;
infection; ss.
  665
                                                                                                                                                                                                                                                                                                                                               Gerard
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                                                                       Length 837
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                                                Indels
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linked to
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RESULT 17
ADV85648
ID ADV85
XX
AC ADV85
XX
DT 10-MA
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AED52652
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                                                                                                                                                                       Query Match
Best Local S
                                                                                                                                                             Matches
                                                                                                                                                                                                                                           linked to an immunological fusion partner that provides T helper epitopes to the HPV antigen. Vaccine formulations comprising the fusion proteins are useful in the treatment or prophylaxis of HPV induced lesions (papillomas, warts and cervical cancer). HPV 16 (and HPV 18) E6 and E7 proteins (singly, as an E6-E7 fusion or mutated) were fused to either Haemophilus influenzae D protein (20-127), the C-terminus of Streptococcus pneumoniae Lyra protein (CLyra) or thioredoxin. The present sequence encodes an HPV-H. influenzae D protein, fusion protein of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  04-MAR-2005.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IN9801903-I4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human papillomavirus Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Haemophilus influenzae; strain
Human papillomavirus type 18.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fusion protein; virucide; uterin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fusion protein D1/3-E6-His(HPV18), DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-DEC-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AED52652;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AED52652 standard; DNA; 837
 10-MAR-2005
                        ADV85648;
                                              ADV85648 standard; DNA; 843
                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                   The invention relates to human Papilloma virus (HPV) fusion proteins,
                                                                                                                                                                                                                                                                                                                                                                           Example 16; Fig 22; 96pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2005-557648/57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tyrrell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (SMIK)
                                                                                                              634 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 665
                                                                                                                                                            l Similarity
32; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AWR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SMITHKLINE BEECHAM BIOLOGICALS
                                                                                                                                                                                                                                                                                                                                                                                                                               AED52653
                                                                                                                                                                                                             837
                                                                                                                            TTATTAATAAGGTGCCTGCGGTGCCAGAAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            otein; vaccine; papilloma; uterine cervix tumor; E6;
                                                                                                                                                             Conservative
                                                                                                                                                                                                            BP; 283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97EP-00179535
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag=  a
/product= "Fusion protein D1/3-E6-His(HPV18)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
1. .837
                                                                                                                                                            100.0%; Score 32; DB 14; 100.0%; Pred. No. 0.00018; tive 0; Mismatches 0;
                                                                                                                                                                                                            A; 169 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BP
                                                                                                                                                                                                            167 G; 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cytostatic; papillomavirus infection; ds; gene; D protein.
                                                                                                                                    32
                                                                                                                                                                                                            T; 0 U;
                                                                                                                                                                                   Length 837;
                                                                                                                                                                                                             0 Other;
                                                                                                                                                             Indels
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                                                                                                                                                                                        The present invention relates to a method (M1) for promoting highly conficient antigen presentation in a mammal, by targeting a preselected acc antigen to an endocytic receptor on an antigen-presenting cell, e.g. a condition DEC-205. The method comprises exposing dendritic cells from the cememmal to either: a conjugate comprising a preselected antigen covalently bound to an antibody to DEC-205, or a recombinant anti-DEC-205 antibody comparises exposing dendritic cells from the cell east one preselected site on the antibody molecule; and promoting comparison of the dendritic cells. The sequence encoding an anti-DEC-205 antibody (fragment) is preferably selected from ADV85632 and ADV85633, comparison of the antipen is targeted to antigen of an anti-DEC-205 antibody. The antigen is targeted to antigen presenting cells through the cells of the antipen is targeted to antigen presenting cells through the cells of the antigen is targeted to antigen presenting cells through the cells of the antigen and the presentation of the antigen and the presentation of the antigen and the cells through the cells of the antigen and the presentation of the antigen and the cells through the cells of the antigen and the presentation of the cells through the cells of the
                                                                             Query Match
Best Local S
Matches 32
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31-JAN-1996;
05-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Promoting antigen presentation comprises targeting antigen to dendritic cells using an anti-DEC-205 antibody.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human
                                                                                                                                                        Sequence 843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P-PSDB; ADV85646, ADV85647.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hawiger D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12-MAR-2004; 2004US-00800023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US2004258688-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cancer; gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Cytostatic; Virucide; Antibacterial; Antiparasitic; Vaccine; infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (HAWI/) HAWIGER D.
(NUSS/) NUSSENZWEIG M.
(STEI/) STEINMAN R M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09-AUG-2001;
  340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            papillomavirus E6 and E7 coding sequence, SEQ
                                                                                              Similarity
    TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 371
                             TTATTAATAAGGTGCCTGCGGTGCCAGAAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nussenzweig
                                                                             100.0%; Score 32; DB 14; llarity 100.0%; Pred. No. 0.00018; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO
                                                                                                                                                          BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     96WO-US001383
2000US-00586704
2001US-00925284
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525. .842
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                          283 A; 170 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            *tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29; 116pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Σ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "E6 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "E7 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Steinman
                                                                                                                                                        183 G; 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R
                                                                                                                                                             T; 0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bonifaz L;
                                                                                                                     Length 843;
                                                                                                                                                               0 Other;
                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ħ
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                                                                               <u>.</u>
                                                                               Gaps
                                                                               0
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RESULT 19
AAX78801
ID AAX78
XX
XX
AC AAX78
XX
DC AAX78
XX
DF O6-SE
XX
XX
DE HPV f
XX
XX
Fusic
KW fusic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 18
AAQ08623
                                                                                                                                          맑
                                                                                                                                                            Ś
                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAQ08623 standard; DNA; 1000
Fusion protein; E6 protein; E7 protein; E6/E7; immunomodulator; tum immunological fusion partner; CpG oligonucleotide; immune response;
                                                  06-SEP-1999
                                                                      AAX78801;
                                                                                                                                                                                                                       Sequence 1000 BP; 341 A; 198 C; 221 G; 240 T; 0 U; 0 Other;
                                                                                                                                                                                                                                           Example 4a describes the results of the amplification of HPV-18 DNA PCR using primers. (Updated on 24-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                           Detection of human papilloma virus -
                                                                                                                                                                                                                                                                                                                                    Cerutti P,
                                                                                                                                                                                                                                                                                                                                                                           11-NOV-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                   17-MAY-1990.
                                                                                                                                                                                                                                                                                                                                                                                                                                       DE3838269-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human papillomavirus; 18.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HPV-18; HPV-16; amplification; primer; polymerase chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HPV-18 fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-OCT-2003
21-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAQ08623;
                             HPV fusion protein D1/3-E6/E7-His/HPV18 DNA.
                                                                                         AAX78801 standard; DNA; 1152 BP.
                                                                                                                                                                                                                                                                                                                 WPI; 1990-156905/21
                                                                                                                                                                                                                                                                                                                                                                                               11-NOV-1988;
                                                                                                                                                                                                                                                                                                                                                        (BEHW)
                                                                                                                                                                                           Local
                                                                                                                                          405
                                                                                                                                                                                 1 Similarity
32; Conserv
                                                                                                                                                             1 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                         4a; Page 4; 11pp; German.
                                                                                                                                                                                                                                                                                                                                                        BEHRINGWERKE
                                                                                                                                         TTATTAATAAGGTGCCTGCGGTGCCAGAAACC
                                                                                                                                                                                                                                                                                                                                    Whitcomb J,
                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (revised)
(first en
                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                            88DE-03838269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag= c
/note= "primer
667. .686
                                                                                                                                                                                                                                                                                                                                                                                               88DE-03838269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "primer (AAQ08624) binding 647. .666
                                                                                                                                                                                                                                                                                                                                                                                                                                                        /*tag= b
/note= "primer
                                                                                                                                                                                100.0%; s
100.0%; F
htive 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entry)
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                                                                                                                                                                                                                                                                                                                                    Zijlstra J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            먥
                                                                                                                                                                                          Score 32;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          (AAQ08625)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (AAQ08626)
                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                             å
                                                                                                                                                                                                                                                                                                                                     Devilliers
                                                                                                                                                                                         0.00019;
                                                                                                                                                                                                                                                                                             DNA amplification
                                                                                                                                                                                                     DB 2;
                                                                                                                                           436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                          binding
          immunomodulator; tumour;
                                                                                                                                                                                                   Length 1000;
                                                                                                                                                                                                                                                                                                                                     찣
                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gite"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  reaction;
                                                                                                                                                                                                                                                                                              and analysis
                                                                                                                                                                                 0;
                                                                                                                                                                                 Gaps
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                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                                                                                 Matches
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                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                    linked to an immunological fusion partner and an immunomodulatory CpG oligonucleotide. The products of the invention can be used to induce an immune response in a patient to an HPV antigen. They can also be used for
Bruck C,
                                                                                 04-MAR-1999
                                                                                                                                   Human papillomavirus. Haemophilus influenza
                                                                                                                                                                tumour; lesion;
                                                                                                                                                                            Chimeric;
                                                                                                                                                                                              Prot.D1/3-E6-E7-His/HPV18 coding sequence
                                                                                                                                                                                                                   17-OCT-2003
22-JUN-1999
                                                                                                                                                                                                                                                   AAX29790;
                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1152 BP; 378 A; 240 C; 240 G; 294 T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                            preventing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAX78791-X78801 represent nucleic acid sequences which encode novel constructs comprising an E6 or E7 protein or E6/E7 fusion protein from HPV (represented in AAY25375-Y25386). These constructs are optionally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Example XII; Page 60-61; 62pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Composition comprising induce immune response
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Dalemans WLJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ΗPV
                                                            17-AUG-1998;
                                                                                                     WO9910375-A2
                                                                                                                         Chimeric.
                                                                                                                                                                                                                                                                      AAX29790 standard; DNA; 1152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO9933868-A2
                                        22-AUG-1997;
                    (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                           Loca 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   antigen; prevention; treatment;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1999-405485/34.
                                                                                                                                                                                                                                                                                                                         634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                 32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAY25386
                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                        TTATTAATAAGGTGCCTGCGGTGCCAGAAACC
                                                                                                                                                                                                                                                                                                                                           TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                E6; E7; fusion protein; protein D; vaccine;
esion; benign; malignant; virus; infection;
Cabezon Silva T,
                                                                                                                                                                                                                                                                                                                                                                                                                            or treating
                                                                                                                                    influenzae.
                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                   (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gerard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      97GB-00027262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98WO-EP008563
                                        97GB-00017953
                                                             98WO-EP005285
                                                                                                                                                                                                                                                                                                                                                                          100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CMG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 to
                                                                                                                                                                                                                                                                                                                                                                                                                            HPV induced tumours
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E6,
HPV.
 Delisse AEF,
                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                          Score 32;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          E7
                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E6/E7
                                                                                                                                                                                                                                                                                                                                                              DB 2;
. 0.00019;
0;
                                                                                                                                                                                                                                                                                                                         665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           fusion protein
  Gerard
                                                                                                                                                                            vaccine; immunotherapy;
                                                                                                                                                                                                                                                                                                                                                                                   Length 1152;
                                                                                                                                                                                                                                                                                                                                                                                                         U; 0 Other;
   0
6
7
                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                   88.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            from HPV
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RESULT 21
AED52656
ID AED522
XX AED52
XX Pusic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human papillomavirus type 18.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This sequence represents the coding region for a chimeric E6 or E7 protein or E6/E7 fusion prottein from Human papillomavirus (HPV) linked to an immunological fusion partner, in this case, a fragment of the Haemophilus influenzae B protein D. The sequence also contains a histidine tag at the C-terminus of the encoded protein. The protein can be used in a vaccine, for immuno-therapetuically treating HPV induced tumour lesions (benign or malignant) and preventing HPV viral infection. (Updated on 17-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pusion protein; vaccine; virucide; uterine cervix
                                                                                                                                                                                                                                                                                                                                                                                                                                                04-MAR-2005.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IN9801903-I4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fusion protein D1/3-E6-E7-His/HPV18, DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-DEC-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AED52656;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1152 BP; 378 A; 240 C; 240 G; 294 T; 0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Fig 25; 95pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human Papilloma Virus (HPV) fusion proteins - useful in vaccines for treatment or prophylaxis of HPV induced lesions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1999-190587/16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AED52656 standard; DNA; 1152
  The invention relates to human Papilloma virus (HPV) fusion proteins
                                                   Example 17;
                                                                                                                                                                                                                                                                                                                                           22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                            24-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lombardo-Bencheikh
                                                                                                                                                                                                                                                                                       (SMIK)
                                                                                                                                                                                      2005-557648/57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAY02642.
                                                                                                                                                                                                                                         AWR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                AED52657
                                                                                                                                                                                                                                                                                       SMITHKLINE BEECHAM BIOLOGICALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTATTAATAAGGTGCCTGCGGTGCCAGAAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                      Fig 25; 96pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                           97EP-00179535
                                                                                                                                                                                                                                                                                                                                                                                            98IN-CH001903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /*tag= a
/product= "Fusion protein D1/3-E6-E7-His/HPV18"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .1152
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    papilloma;
tumor; E7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 32; DB 2; Le
Pred. No. 0.00019;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽Þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cytostatic; papillomavirus infection; E6; ds; gene; D protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6
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RESULT 22
AAN801.61
ID
AAN801.61
AC AAN80
AC AAA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27-AUG-2003
25-MAR-2003
10-MAR-2003
19-OCT-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linked to an immunological fusion partner that provides T helper epitopes to the HPV antigen. Vaccine formulations comprising the fusion proteins are useful in the treatment or prophylaxis of HPV induced lesions (papillomas, warts and cervical cancer). HPV 16 (and HPV 18) B6 and E7 proteins (singly, as an B6-E7 fusion or mutated) were fused to either Haemophilus influenzae D protein (20-127), the C-terminus of Streptcocccus pneumoniae Lyth protein (CLyth) or thioredoxin. The present sequence encodes an HPV-H. influenzae D protein, fusion protein of the
The expression prods. of HPV18, contained produce antibodies to detect these. HPV16 for antibody prodn. See also AAN80155-59.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAN80161;
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                                                                                                                                                                                                             WPI; 1988-037095/06.
P-PSDB; AAP82076.
                                                                                                                                                                                                                                                                                    Schwarz E,
Durst M;
                                                                                                                                                                                                                                                                                                                                                                                                    23-JUL-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human papillomavirus
                                                                                                                                        Expression prods. of human papilloma viruses type 16 and 18 the prodn. of diagnostics for HPV16 and HPV18 infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-JUL-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               04-FEB-1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DE3625257-A
                                                                                                                                                                                                                                                                                                                                                      (BEHW ) BEHRINGWERKE AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ocal
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   papilloma virus; HPV16; HPV18; malignant genital
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  papilloma virus 18 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            32;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                            Page
                                                                                                                                                                                                                                                                                                       Oltersdorf T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
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(revised)
(revised)
(first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                    86DE-03624786
                                                                                                                                                                                                                                                                                                                                                                                                                                                   86DE-03625257
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/label=
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                                                                                            ?; 7pp;
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|
|label= HPV18 E6 protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                label= HPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA; 1731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
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                                                                                               German.
                                                                                                                                                                                                                                                                                                          Rowekamp
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Pred. No.
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in this sequence, are used to expression prods are also used (Updated on 10-MAR-2003 to add
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    665
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                                                                                                                                                                                                                                                                                                            Seedorf K;
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Matches 32
                                                     Query Match
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Matches 32
                                                                                                                                   The invention comprises a composition for the detection of cancer markers, the composition contains a nucleic acid molecule which is substantially identical to a full length genomic clone of a human papilloma virus (type 11, 16, 18, 51, 56, 58, 66, 70, or 73). The composition of the invention is useful for diagnosing cancer or the risk of developing cancer, in particular cervical, anal, colon and HPV-related cancer. The present DNA sequence represents a human papilloma virus full length genomic clone of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1731 BP; 610 A; 313 C; 403 G; 405 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    missing OS field.) (Updated on 25-MAR-2003 to correct PR field.) (Updated on 25-MAR-2003 to correct PI field.) (Updated on 27-AUG-2003 to correct OS field.)
                                                                                                                                                                                                                                                                                                          New composition having a nucleic acid molecule identical to genomic clone of human papilloma virus 16, 18 or 51, useful in diagnosing cancer or the risk of developing cancer, in particular cervical, anal, colon and HPV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-OCT-2003; 2003DK-00001474.
07-OCT-2003; 2003US-0509205P.
13-FEB-2004; 2004US-0543925P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tumor marker; genome; diagnosis; cancer; uterine cervix tumor;
rectal tumor; colon tumor; ds.
                                                                                                           Sequence 7857 BP; 2365 A; 1497 C; 1680 G; 2315 T;
                                                                                                                                                                                                                                                                    Claim 1; SEQ ID NO 2; 169pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                               Chau MF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            04-OCT-2004; 2004WO-DK000670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14-APR-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human papillomavirus type 18
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                                                                                                                                                                                                                                                                                                 related cancer.
                                                                                                                                                                                                                                                                                                                                                                                                Lindberg M,
                                                                                                                                                                                                                                                                                                                                                                                                                                         (DAKO-) DAKOCYTOMATION DENMARK AS
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405
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                      32;
                                                                   Similarity
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TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 436
                         TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 430
                                                                                                                                                                                                                                                                                                                                                                                                             Bisgaard-Franzen K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                     100.0%; ilarity 100.0%; Conservative 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   type 18 full length
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Pred. No.
                                                                  Score 32; DB 14;
Pred. No. 0.00029;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                               Rasmussen OF,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    genomic clone -
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                                                                              Length 7857;
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                                                                                                           0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                             Wang
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                                                     Gaps
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RESULT 24
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AD044106
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                                                                                                                                                                                                                                                                                                         The present sequence encodes an E6 polypeptides from human papillomavirus type 45 (HPV45). The specification describes human papillomavirus E6 and E7 polypeptides, where the E7 polypeptide has mutations at any one or more of the amino acids corresponding to amino acids 24, 26 or 91 of the sequence given in ADO44073 and the E6 polypeptide has no mutations or has mutations at any one or more of the amino acids corresponding to amino acids corresponding to amino acids corresponding to amino acids 30 or 106 of there sequence given in ADO44072. The polypeptides of the invention are useful for treating or preventing human papillomavirus (HPV) -associated cancers, such as cervical cancer. The fusion proteins and nucleic acids encoding the fusion proteins are useful for generating immune responses against HPV. They are also useful for treating lower gastrointestinal tract cancers, e.g. anal cancer, and other cancers of the reproductive system, including penile and vulvar cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New polypeptide comprising human papillomavirus E6 and E7 polypeptides, useful for treating or preventing human papillomavirus (HPV)-associated cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E6 protein; E7 protein; fusion protein; HPV45; HPV-associated cancer; cervical cancer; immune response; lower gastrointestinal tract cancer; anal cancer; reproductive system cancer; penile cancer; vulvar cancer;
                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure; Page 96; 101pp; English.
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301
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                                                          1 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                          Similarity
TTGTTAATAAGGTGCCTGCGGTGCCAGAAACC
                                                                                                                                                                                                                                                      477 BP; 171 A; 86 C; 101 G; 119 T; 0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cassetti MC;
                                                                                                                           Conservative
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                                                                                                                                                      Score 30.4;
Pred. No. 0.
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332
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ADO44105 ID ADO4 XX

ADO44105

standard; DNA; 477

RESULT

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RESULT 26
ADO44112
ID ADO44
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                                                                                                                                                                                                                                                                                                                                           The present sequence encodes an E6 polypeptides from human papillomavirus type 39 (HPV39). The specification describes human papillomavirus E6 and E7 polypeptides, where the E7 polypeptide has mutations at any one or more of the amino acids corresponding to amino acids 24, 26 or 91 of the sequence given in ADO44073 and the E6 polypeptide has no mutations or has mutations at any one or more of the amino acids corresponding to amino acids 63 or 106 of there sequence given in ADO44072. The polypeptides of the invention are useful for treating or preventing human papillomavirus (HPV)-associated cancers, such as cervical cancer. The fusion proteins and nucleic acids encoding the fusion proteins are useful for generating immune responses against HPV. They are also useful for treating lower gastrointestinal tract cancers, e.g. anal cancer, and other cancers of the reproductive system, including penile and vulvar cancers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New polypeptide comprising human papillomavirus E6 and E7 polypeptides, useful for treating or preventing human papillomavirus (HPV)-associated cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E6 protein; E7 protein; fusion protein; HPV39; HPV-associated cancer; cervical cancer; immune response; lower gastrointestinal tract cancer; anal cancer; reproductive system cancer; penile cancer; vulvar cancer;
 Nucleotide sequence of the E6 polypeptide of HPV68.
                                                                                                                                                                                                                                                                                                              Sequence 477 BP; 170 A; 96 C; 100 G; 111 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Page 95-96; 101pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2004-316328/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Smith L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 03-OCT-2002; 2002US-0415929P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                02-OCT-2003; 2003WO-US031726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO2004030636-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human papillomavirus type 39.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADO44105;
                                  15-JUL-2004
                                                                  AD044112
                                                                                                 ADO44112 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (AMHP)
                                                                                                                                                                                301
                                                                                                                                                                                                                                                27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADO44078
                                                                                                                                                                                                                                                              n 75.0%;
Similarity 84.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WYETH HOLDINGS CORP.
                                                                                                                                                                                                               TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cassetti MC;
                                                                                                                                                                               TTATTAATAAGGTGCATGTGTTGTCTGAAACC 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequence of the
                                                                                                                                                                                                                                                Conservative
                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
1. .477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product= "E6 polypepyide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E6 polypeptide of HPV39
                                                                                                                                                                                                                                                <u>,</u>
                                                                                                                                                                                                                                                              Score 24; DB 12; Length 477; Pred. No. 0.84;
                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                Indels
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RESULT 27
AAZ31781
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence encodes an 86 polypeptides from human papillomavirus type 68 (HPV68). The specification describes human papillomavirus 86 and 87 polypeptides, where the 87 polypeptide has mutations at any one or more of the amino acids corresponding to amino acids 24, 26 or 91 of the sequence given in ADO44073 and the 86 polypeptide has no mutations or has mutations at any one or more of the amino acids corresponding to amino acids 30 or 106 of there sequence given in ADO44072. The polypeptides of the invention are useful for treating or preventing human papillomavirus (HPV)-associated cancers, such as cervical cancer. The fusion proteins and nucleic acids encoding the fusion proteins are useful for generating immune responses against HPV. They are also useful for treating lower gastrointestinal tract cancers, e.g. anal cancer, and other cancers of the polypeptides of the correct of the cancer 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New polypeptide comprising human papillomavirus E6 and useful for treating or preventing human papillomavirus cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAZ31781 standard; DNA; 1095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 477 BP; 167 A; 93 C; 102 G; 115 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         03-OCT-2002; 2002US-0415929P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E6 protein; E7 protein; fusion protein; HPV68; HPV-associated cancer; cervical cancer; immune response; lower gastrointestinal tract cancer
Human papillomavirus
                                                                                       HPV68; human papillomavirus 68; detection; immunisation; infection; ss.
                                                                                                                                                                                                                                                                           21-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                   AAZ31781;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 98; 101pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Smith L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-OCT-2003; 2003WO-US031726
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (AMHP ) WYETH HOLDINGS CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PSDB; ADO44085.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    reproductive system, including penile and
                                                                                                                                                                               DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301 TTATTGATAAGGTGCATGAGTTGCCTGAAACC 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cassetti MC,
                                                                                                                                                                                    sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /product= "E6 polypepyide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               75.0%;
84.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ġ,
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Pred. No. 0.84;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
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ARESULT 28
AAZ31783
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Best Local (
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                                                                                                                                                               (INSP )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HPV68 E6 and E7 protein coding sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This sequence represents a human papillomavirus (HPV) 68 DNA sequence. The invention relates to a purified HPV68 DNA (I) deposited at C.N.C.M. (Collection Nationale de Culture de Microorganisms) under Accession No. I 1-1540, and a HPV70 DNA (II) sequence. Fragments of the HPV68 and HPV70 DNA may be useful as primers or probes in the detection of HPV68 or HPV70 infections. Proteins produced by the HPV DNA's can be used to immunise animals against HPV68 or HPV70 infections
New human papillomavirus (HE treatment of HPV infections.
                                                                                                                                                                                                                                                                                                        11-FEB-1997;
                                                                                                                                                                                                                                                                                                                                                    09-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                 US5981173-A
                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HPV68; human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAZ31783 standard; DNA; 1108 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1095 BP; 370 A; 220 C; 231 G; 274 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New human papillomavirus (HPV) treatment of HPV infections.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14-FEB-1996;
15-FEB-1996;
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                                                                     WPI; 1999-633305/54
                                                                                                                                                                                                                                  14-FEB-1996;
15-FEB-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Longuet M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (INSP ) INST PASTEUR.
                                                                                                                 Longuet M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein; E7 protein:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       580
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           27;
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                                                                                                                                                               INST PASTEUR.
INST NAT SANTE & RECH MEDICALE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
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                                                                                                              orth G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                  96US-0011650P.
96US-0020458P.
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96US-0020458P.
                                                                                                                                                                                                                                                                                                      97US-00815667.
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84.4%;
                                                                                                                   Beaudenon
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                        (MPV)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                68; detection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
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Pred. No. 0.99;
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                        and
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                        70
                        DNA sequences,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA sequences, useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   immunisation; infection;
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ARESULT 29
ARZ31789
ID ARZ31789
ID ARZ31789
AC ARZ31
AC A
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Query Match
Best Local S
Matches 27
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Best Local S
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                                                                                                                                                                                                                                                                                                                                                                                                                            New human
treatment
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                                                                                                                                                                                  This sequence represents a human papillomavirus (HPV) 70 DNA sequence. The invention relates to a purified HPV68 DNA (I) deposited at C.N.C.M. (Collection Nationale de Culture de Microorganisms) under Accession No. -1540, and a HPV70 DNA (II) sequence. Fragments of the HPV68 and HPV70 DNA may be useful as primers or probes in the detection of HPV68 or HPV7 infections. Proteins produced by the HPV DNA's can be used to immunise
                                                                                                        Sequence 3283 BP; 945 A; 640 C; 699 G; 999 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Fig 6; 25pp; English.
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15-FEB-1996;
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25-MAR-2003
18-JAN-1993
DNA was isolated from a previously identified HPV39 clone (Virology 374-384, 1987), subcloned and sequenced. The HPV39 genome was found comprise 7833bp and have a G/C content of 40%. The genome comprises reading frames conserved among all the known HPV's, the ORFs are postulated to code for the early proteins and capsid components of t
                                                                                                                                                                                                         DNA sequences of the HPV39 Papilloma:virus genome - in=vitro diagnosis of Papilloma:virus infections in
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                                                                                                                                    Claim 1; Fig 1; 33pp;
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composition.

of developing cancer, in partituding cancer. The present DNA sequence represents a cancer. The present of the invention.
                                                                                  The invention comprises a composition for the detection of cancer markers, the composition contains a nucleic acid molecule which is substantially identical to a full length genomic clone of a human papilloma virus (type 11, 16, 18, 51, 56, 58, 66, 70, or 73). The composition of the invention is useful for diagnosing cancer or the risk of developing cancer, in particular cervical, anal, colon and HPV-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           virus. of the
                                                                                                                                                                                                                                                                                                                                                               New composition having a nucleic acid molecule identical to genomic clone of human papilloma virus 16, 18 or 51, useful in diagnosing cancer or the risk of developing cancer, in particular cervical, anal, colon and HPV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-OCT-2003; 2003DK-00001474.
07-OCT-2003; 2003US-0509205P.
13-FEB-2004; 2004US-0543925P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human papillomavirus type 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tumor marker; genome; diagnosis; cancer; uterine
rectal tumor; colon tumor; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30-JUN-2005
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                                                                                                                                                                                                                                                                                        Claim 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2005-285441/29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lindberg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chau MF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     04-OCT-2004; 2004WO-DK000670
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                                                                                                                                                                                                                                                                                        SEQ ID
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M, Yoast S;
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                                                                                                                                                                                                                                                                                     NO 9; 169pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  type
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Pred. No. 1.5;
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Sequence 7905 BP;

2425 A; 1495 C; 1693 G; 2292 T; 0 U; 0 Other;

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RESULT 32
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Best Local S
Matches 27
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29-MAR-2001; 2001US-0280067P.
29-MAR-2001; 2001US-0280068P.
16-MAY-2001; 2001US-0291280P.
17-MAY-2001; 2001US-0291829P.
17-MAY-2001; 2001US-0291849P.
19-JUN-2001; 2001US-0299428P.
20-JUN-2001; 2001US-029976P.
20-JUN-2001; 2001US-0300001P.
                                                                                                                                                                                                                                                                   Dufour GE, Hilman JL, Yu JY, Tuason O, Yap PE, Amshey SR; Daughtery SC, Dam TC, Liu TF, Nguyen DA, Kleefeld Y, Gerst: Peralta CH, David MH, Lewis SA, Chen AJ, Panzer SR, Harris Flores V, Marwaha R, Lo A, Lan RY, Urashka ME;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cancer; cell proliferative disorder; autoimmune disorder; inflammatory disorder; infection; hormonal disorder; metabolic disorder; neurological disorder; gestrointestinal disorder; transport disorder; connective tissue disorder; drug screening; proteome analysis; gene therapy; antisense therapy; genotyping; transgenic animal; knock in; disease model; toxicological testing; transcript imaging;
            The invention relates to novel human diagnostic and therapeutic polynucleotides designated dithp (ACC46080-ACC46749) and to their epotyenis (DITHP, ABR41136-ABR41312). The invention also relates to polynucleotide sequences at least 90% identical to the dithp cDNA sequences of the invention, recombinant vectors, host cells and transgenic organisms comprising a dithp nucleic acid sequence; the recombinant production of DITHP proteins; antibodies specific for I
                                                                                                                                                                Novel human diagnostic and therapeutic polypeptide useful for identifying test compound which specifically binds to a polypeptide encoded by human diagnostic and therapeutic polynuclectide, and to induce antibodies.
                                                                                                                                      Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        05-DEC-2002.
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proteins; microarrays
                                                                                                                                                                                                                                                                                                                                                                        (INCY-)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ribosomal protein;
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                                                                                                                                      2; SEQ ID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  standard;
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                                                                                                                                    NO 538; 591pp;
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84.4%;
comprising
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Pred. No. 1.5;
0; Mismatches
                                                                                                                                      English.
dithp nucleic acid
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sequences; methods of
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Harris B;
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Best Local
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02-NOV-2000;
11-MAY-2001;
                                                                                     WPI; 2002-241625/29
                                                                                                                                                                                                                                                                                    13-JUN-2001;
19-JUN-2001;
                                                                                                                                                                                                                                                                                                                                            06-JUN-2001;
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22-MAY-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-JUL-2001; 2001WO-US023872
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25; Conserv
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2001US-0290029P.

2001US-0290645P.

2001US-0292336P.

2001US-0292336P.

2001US-029745PP.

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2001US-029884P.

2001US-0303459P.
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                                                                                                                                          Porter
                                                                                                                                                                                               LOGIC INC
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                                                                                                                                             Johnson
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Pred. No. 1
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Predicting teffects by

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RESULT 34
ADV39914
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Best Local (
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                            08-JAN-2003; 2003US-00338044
                                                                                                                                                                                                                                                                                                                                                                expressed
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                                                                                                                                                                                                                                                                                                                                                                sequence
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Pred. No. 1
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04-DEC-2001

(first

entry)

AAS31153

standard; cDNA; 885

Human diagnostic and therapeutic polynucleotide (DITHP) #168.

Human; receptor; diagnostic; therapeutic; gene therapy; vaccine;

disease;

autoimmune

disorder;

acquired

cell proliferative disorder; Crohn's

immune deficiency syndrome; AIDS;

respiratory disorder;

WO200162927-A2 Homo sapiens. 묽 5

73 σ 25;

AATAAGGTGCCTGCGGTGCCAGAAACC 32

AAAAAGGTTCCTGCGGTGCCAGAAACC

99

Matches Query Match

ocal

Similarity

74.4%;

Conservative

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Pred. No. 1.1; 0; Mismatches Score 23.8; Pred. No. 1

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Gaps

0

DB

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Length

630;

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CC dyspnea, cardiogenic shock or other specific heart pathologies. The CC invention is based on the elucidation of global changes in gene CC expression in tissues or cells exposed to known toxins, particularly CC cardiotoxins, and the identification of individual genes (toxicity CC markers) that are differentially expressed on toxin exposure. The CC invention also relates to methods for predicting the progression of a CC compound's toxic effects, for predicting the cardiotoxicity of a CC compound, for identifying an agent that modulates the onset or CC pathways a particular compound will modulate. The invention further CC relates to sets of at least two hybridization probes specific for CC compounds such as pharmaceutical supports and kits comprising them. CC redicting the toxic effects (especially cardiotoxic effects) of CC compounds such as pharmaceutical agents or environmental pollutants. CC sequences ADV9313-ADV41830 represent cardiotoxic effects (sequences at least one cardiotoxin. Note: The sequence data for this patent did not form part directly from MIDD at for introduction is electronic.

CC formal directly from WIDD at for introduction is altered on exposure to at least one cardiotoxin. Note: The sequence data for this patent did not form part directly from WIDD at for introduction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to a method of predicting at least one toxic effect of a compound by obtaining a gene expression profile of a tissue or cell sample exposed to the compound and comparing the gene expression profile to a database of toxicity prediction genes which are differentially expressed on exposure to known toxins. The tissue or cell sample is preferably derived from heart tissue, and the predicted toxic effect is especially a cardiotoxic effect such as myocarditis, arrhythmias, tachycardia, myocardial ischemia, angina, hypertension, hypotension, dyspnea, cardiogenic shock or other specific heart pathologies. The
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Predicting a toxic effect of a compound by obtaining a gene expression profile of a tissue or cell sample exposed to the compound and comparing the gene expression profile to a database comprising all of the data given in the specification.
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                                                directly from
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630 BP; 191
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A; 141
                                           WIPO at ftp.wipo.int/pub/published_pct_sequences
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C; 171 G;
     127
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30-AUG-2001

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The invention relates to polynucleotides (I) encoding diagnostic and therapeutic (DITHP) polypeptides (II), which include e.g. enzymes, and CC proteins involved in growth and development and receptors. (I) and (II) cmay be used in the prevention, diagnosis and treatment of diseases CC associated with inappropriate DITHP expression. For example, (I) and (II) cmay be used to treat disorders associated with decreased polypeptide compared to treat disorders associated with decreased polypeptide compared to treat disorders or deletions in a patient's genome, that affect the activity of the DITHPs, by expressing inactive proteins cor supplementing the patient's own production of them. (I) and (II) may be used to treat diseases, for example, cell proliferative disorder, CC crohn's disease, acquired immune deficiency syndrome (AIDS), lymphoma, CC leukaemia, autoimmune disorders, and respiratory disorders. Additionally, CI) may be used to produce the DITHPs, by inserting the nucleic acids in the nost cell and culturing the cell to express the protein. (I) and CC assays to detect and quantitate the presence of similar nucleic acids in the three conditions of the protein of the condition of the cell acids in the protein of the condition o
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chen A, I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Panzer
Chen A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; Page 378; 522pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              enzymes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Polynucleotides encoding diagnostic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Roseberry AM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-MAY-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RJ, Yap PE, Y
iJ, Hodgson DM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INCYTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 hormones
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Spiro PA, Banville SC, Shah P, Chalup MS
'8a SA, Amshey S, Dahl CR, Dam TC, Daniel'
'Fong WT, Greenawalt LB, Hillman JL, Jones
AM, Rosen BH, Russo FD, Stockdreher TK, I
Yap PB, Yu JY, Bradley DL, Bratcher SR,
Hodgson DM, Lincoln SB, Jackson S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000US-0204525P
2000US-0204821P
2000US-0204908P
2000US-0205232P
2000US-02048615P
2000US-0204863P
2000US-0204863P
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2000US-0184797P.
2000US-0184797P.
2000US-0184813P.
2000US-0184837P.
2000US-01848419.
2000US-0185213P.
2000US-0185213P.
2000US-0203785P.
2000US-0203785P.
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2000US-0205324P
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2000US-0184770P.
2000US-0184771P.
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2000US-0184768P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENOMICS INC.
also
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   receptors, useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              therapeutic proteins, e.g. in diagnostics and therapeutics.
  'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chalup MS,
C, Daniels
the production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Danler, br., Jones AL, br., TK, Daffo A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a SE,
Liu
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SE, Dufour
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GE;

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RESULT 36
AAT711
XX
AAT711
AC AAT711
AC AAT711
AC AAT711
XX
DT 25-MAR
DT 20-AUG
XX HUMAN
KW HUMAN
KW Probe;
XX US5580
XX US5580
XX O1-DEC
XX O1-DE
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                                                                                   Query Match
Best Local S
Matches 25
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antibodies against DITHPs and in assays to identify modulators of DITHP expression and activity. The anti-DITHP antibodies and antagonists may also be used to down regulate expression and activity. The anti-DITHP antibodies may also be used as diagnostic agents for detecting the presence of DITHPs in samples (e.g. by enzyme linked immunosorbant assay (BLISA)). AAS30986-AAS31196 represent human diagnostic and therapeutic
                                                                                                                                                                                                             AAT71194-T71199 are probes used for the detection of spliced exons human papillomavirus (HPV) types 16, 18, 31, 33 and 35. The probes specifically hybridise to 86 region exons at the splice junction of spliced HPV genome. The probes are used for accurate and reliable prognosis of HPV-induced cancers, in particular cervical cancer. (to on 25-MAR-2003 to correct PF field.)
                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                  Example 1; Fig 4; 18pp; English
                                                                                                                                                                                                                                                                                                                                                                                                               cervical neoplasias
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-DEC-1989;
05-DEC-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              04-MAR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       03-DEC-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US5580970-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HPV type 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25-MAR-2003
20-AUG-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAT71196 standard; DNA; 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 885 BP; 284 A; 181 C; 229 G; 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (STAD )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (DITHP) polynucleotides of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1997-033604/03.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   papillomavirus; HPV; cervical cancer;
; detection; diagnosis; hybridisation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6 AATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                   Similarity
25; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>,</u> ,
                                                                                                                                                                                                                                                                                                                                                                                                                                      acid probes
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                         40
                                    TTAATAAGGTGCCTGCGGTGCCAGAAAC 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAAAAGGTTCCTGCGGTGCCAGAAACC
                                                                                                                                                                    B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rigby S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    exon-specific probe,
                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (revised)
(first entry)
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90US-00622742.
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and cance
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                                                                                                     72.5%;
89.3%;
                                                                                                                                                                         12 C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lane
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                                                                                     0
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                                                                                                                                                                         G; 11
                                                                                                                                                                                                                                                                                                                                                                                                                                      for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 23.8;
Pred. No. 1.
                                                                                                          Pred.
                                                                                                                              Score
                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hendricks
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    binds to
                                                                                                                                                                                                                                                                                                                                                                                                                                        human
                                                                                                          23.2;
No. 1
                                                                                                                                                                         T;
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                                                                                                                                                                                                                                                                                                                                                                                                                                        papilloma virus -
                                                                                                                                                                         ς,
                                                                                                          .2
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                                                                                                                              DB
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                                                                                                                              2
                                                                                                                                                                           Other;
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                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 885;
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                                                                                        Indels
                                                                                                                                40
                                                                                                                                                                                                                                                                                                                                                                                                                                      for prognosis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
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                                                                                     Gaps
                                                                                                                                                                                                                                                                                   of the
                                                                                                                                                                                                                                          (Updated
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RESULT 38
AAZ07822/standard; DNA; 30 BP
XX
AC AAZ07822;
XX
DT 03-DEC-1999 (first entry)
XX
DE Oligo 2PV18 directed to HPV E
XX
Binding assay; electrochemilu
XX
PCR primer; ss.
XX
Synthetic.
XX
PN US5962218-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 37
AAQ44290/c
ID AAQ442
XX AAQ442
XX Sequen
DE Sequen
DE Sequen
DE Synthe
XX Primer
XX Primer
XX Primer
XX Primer
XX W09312
XX W09312
XX Kenter
XX WENT; 1
XX WENT; 1
XX Ender
XX Examplit
X
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention is in a process for exponentially amplifying a nucleic acid sequence by a single unpaired primer. It includes a method for modifying a putative primer to improve its ability to prime a single primer exponential amplification process. Oligo amino modifications to the 5' end occurred at the last coupling step. The resulting 5' modified oligos all contained a six carbon spacer arm to the amino gp., designated (C6, NH2). Oligo Ru(II) modifications to the 5' end occurred at the last coupling step and the oligo is designated Ru(II) (Updated on 25-MAR-2003 to correct PN field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Amplifying nucleic acid sequences of interest - using single primer to provide exponential amplification in polymerase reaction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07-DEC-1992;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-MAR-2003
02-DEC-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 30 BP; 10 A; 7 C; 4 G; 9 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example; Page 32; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1993-214186/26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11-DEC-1991;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAQ44290 standard; DNA; 30
                                                                                                                                                                                                                                                 Oligo 2PV18 directed to HPV E6 region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9312245-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTATTAATAAGGTGCCTGCGGTG 23
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               91US-00804951
                                                                                                                                                                                           electrochemiluminescence; luminescence; HPV; E6 region.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               71.9%; bred. No. 100.0%; Pred. No. 100.0%; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
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RESULT 39
ADZ64772/c
ID ADZ64772;
XX
AC ADZ64772;
XZ
DT 30-JUN-200
XX
DE HPV 18 E6
XX
OS HPV 18 E6
XX
OS Human papi
XX
OS Human papi
XX
FT modified_!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      닭
                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention provides a binding assay based on measuring CC electrochemiluminescence from a luminescent component concentrated in an electrochemiluminescence from a luminescence for detection. The CC assay composition which is collected at an electrode for detection. The CC inding assay is used to measure luminescence emitted by one or more components of the assay system. The assay can be used to measure ce is antigen-antibody, ligand-receptor, RNA and DNA interactions. The ce is ample may be derived from cells, water, feces, saliva, tissue, hair, complete may be derived from cells, water, feces, saliva, tissue, hair, complete antigen, subcellular particle, virus, antibody, antigen, hapten, complete antigen, subcellular particle, virus, antibody, antigen, hapten, collised, hormone, nucleic acid, vitamin, amino acid, sugar, collised, hormone, nucleic acid, vitamin, amino acid, sugar, completule. The assay has improved sensitivity, faster assay time, greater specificity, lower detection limits and greater precision than previous methods. Sequences AAZO7818-823 represent PCR oligos directed to the HPV CC E6 region, used during the course of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-JUN-1990;
06-FEB-1991;
03-FEB-1992;
12-JUL-1993;
24-NOV-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 30 BP; 10 A; 7 C; 4 G; 9 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Binding assay based on detection of
                                           modified_base
                                                                                                                                                                                                                                                                   30-JUN-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 20; Col 30; 43pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1999-579609/49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Shah HP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             03-NOV-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-NOV-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-OCT-1999
                                                                                                                                                                       Human papillomavirus type 18
                                                                                                                                                                                                     Analyte detection; luminescence; PCR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lowke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (IGEN-) IGEN INT INC.
                                                                                                                        nodified_base
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                           23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23;
                                                                                                                                                                                                                                    E6 region specific PCR primer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                               TTATTAATAAGGTGCCTGCGGTG 23
                                                                                                                                                                                                                                                                                                                               standard; DNA; 30
                                                                                                                                                                                                                                                                                                                                                                                                           TTATTAATAAGGTGCCTGCGGTG 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kenten JH,
Leland JK;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 93US-00158193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 92US-00827270.
93US-00090467.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                91US-00652427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             88US-00266882
90US-00539389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            93US-00160063
 /*tag= b
/mod_base= OTHER
/note= "Linked to a three carbon spacer"
                                                                                                                                          Location/Qualifiers
                                                                                           mod_base=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       71.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Goodman JE,
                                                                              "Linked
                                                                              nked to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 23;
Pred. No
                                                                              ប
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Blackburn GF,
                                                                              six carbon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      electrochemiluminescence
                                                                                                                                                                                                     primer;
                                                                                                                                                                                                                                       2PV18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 2;
                                                                                                                                                                                                      88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 30
                                                                              spacer arm designated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Massey RJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                               <u>6</u>
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0,

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RESULT 40
ABV07997
ID ABV0797
XX ABV07
XX ABV07
XX 13-SE
XX Human
XX Human
XX Pharm
XX Pharm
XX Pharm
XX Pos Homo
XX 23-AU
PF 20-FE
XX 17-FE
PR 16-M2
                                                                                                                                                                                                                                                                                                       문
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                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             06-FEB-1991;
24-NOV-1993;
30-NOV-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-APR-1987;
03-NOV-1988;
21-JUL-1989;
17-FEB-2000; 2000US-0183319P
16-MAR-2000; 2000US-0189862P
25-MAY-2000; 2000US-0207454P
                                                                                                                                        Human; prostate pharmacogenomic
                                                                                                                                                                          Human
                                                                                                                                                                                                                                                                                                                                                                                                                     composition suitable for use in electrochemiluminescent assay for analyte of interest which comprises electrochemiluminescent label binding reagents, collectable magnetic particles particles. The present sequence is the human papillomavirus (HPV) B6 region specific PCR primer. This sequence was used in a binding assay for an analyte of interest present in a sample based upon electrochemiluminescence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Electrochemiluminescent composition useful in assay for analyte e.g., virus, comprises electrochemiluminescent label, first and second binding reagents having binding partners of analyte, collectable magnetic particles and electrolyte.
                                                                                                                                                                                                 13-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19-APR-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US6881589-B1
                                            20-FEB-2001; 2001WO-US005171
                                                                                           WO200160860-A2
                                                                                                                Homo sapiens
                                                                                                                                                                                                                        ABV07997;
                                                                                                                                                                                                                                               ABV07997 standard;
                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 30 BP; 10 A; 7 C; 4 G; 9 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 20; Col 29; 48pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2005-312301/32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Leland JK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       05-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18-JUN-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (BIOV-)
                                                                                                                                                                          prostate expression marker cDNA
                                                                                                                                                                                                                                                                                                       23
                                                                                                                                                                                                                                                                                                                                                     23;
                                                                                                                                                                                                                                                                                                                              μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BIOVERIS
                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                             TTATTAATAAGGTGCCTGCGGTG 23
                                                                                                                                                                                                                                                                                                        TTATTAATAAGGTGCCTGCGGTG 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Shah HP,
                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             invention relates to an electrochemiluminescent (ECL)
                                                                                                                                                                                                 (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Маввеу
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 94US-00346832
96US-00858354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9305-00158193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   90US-00539389
91US-00652427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          88US-00266882
89US-00369560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 87WO-US000987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       95US-00465443
                                                                                                                                      marker; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORP.
                                                                                                                                                                                                                                               CDNA;
                                                                                                                                                                                                 entry
                                                                                                                                                                                                                                                                                                                                                             71.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kenten
                                                                                                                                                                                                                                               167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  English.
                                                                                                                                                                                                                                                                                                                                                    0,
                                                                                                                                                                                                                                                                                                                                                               Score 23;
Pred. No.
                                                                                                                                                                                                                                               ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ή
                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Goodman JE,
                                                                                                                                                  carcinogen;
                                                                                                                                                                          7988
                                                                                                                                                                                                                                                                                                                                                             DB 14; Length 30;
1.4;
                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lowke
                                                                                                                                                  pharmacodyanamic
                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ,
B
                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                for analyte
                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                  marker;
                                                                                                                                                                                                                                                                                                                                                    0
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RESULT 41
ACH99313/C
ID ACH993
XX
ACH993
XX
ACH993
XX
ACH993
XX
ACH993
XX
ACH993
XX
ACH993
XX
ACH993
ACH993
XX
ACH993
ACH993
XX
ACH993

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a patient is afflicted with prostate cancer; (b) monitoring the progression of prostate cancer in a patient; (c) assessing the efficacy of a therapy for inhibit prostate cancer in a patient; (d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient; (e) selecting a composition for inhibiting prostate cancer in a patient; (f) assessing the prostate cell carcinogenic potential of a compound; (g) determining whether prostate cancer has metastasized in a patient; (h) assessing the aggressiveness or indolence of prostate cancer in a patient; (I) is also useful as a pharmacodyanamic or pharmacogenomic marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                prostate
for detec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to an isolated nucleic ava nucleotide sequence given in Tables 1-9 (ABV) specification or its complement. (I) is useful
New human genome-derived single exon nucleic gene expression analysis, for identifying or
                                                                                      WPI; 2004-119264/12.
                                                                                                                                                                                                                                                                                                                                                              03-APR-2002; 2002US-00029386.
                                                                                                                                                                                                                                                                                                                                                                                                                        16-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; probe; ss; gene expression; alternative splicing event; genomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human genome derived single exon probe #22508.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACH89313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; Page 1279; 11750pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel isolated nucleic acid molecule associated with cancerous state of prostate cells and correlating with presence of prostate cancer, useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2001-662795/76.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Schlegel R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09-JUN-2000; 2000US-0211314P.
18-JUL-2000; 2000US-0219007P.
13-DEC-2000; 2000US-0255281P.
                                                                                                                                                                                                                                                                                                        03-APR-2002; 2002US-00029386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US2003194704-A1
                                                                                                                                                                                             (PENN/) PENN S G.
(RANK/) RANK D R.
(HANZ/) HANZEL D K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (MILL-) MILLENNIUM PREDICTIVE MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             detecting presence of prostate cancer, stage of
                                                                                                                                          SG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3 ATTAATAAGGTGCCTGCGGTGCCAGAAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           standard; DNA; 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       167 BP; 48 A; 33 C; 48 G;
                                                                                                                                          Rank DR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Endege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      70.6%;
83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ,
                                                                                                                                            Hanzel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Monahan
                                                                                                                                          K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 isolated nucleic acid molecule (I) comprising in Tables 1-9 (ABV00010-ABV62213) of the ment. (I) is useful for: (a) assessing whether
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   genomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 22.6;
Pred. No. 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         single exon probe; microarray;
c alteration.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       37 T; 0 U; 1 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u>3</u>2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB
  acid probes useful for human characterizing alternative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>ن</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 167;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             prostate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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RESULT 42
AAS78228
ID AAS78
XX AAS78
XX AAS78
XX I3-FE
XX DNA e
XX Humar
KW Humar
KW Hood
XX Homo
XX Homo
XX II-OC
XX II-OC
XX XX II-OC
XX XX II-OC
XX XX II-OC
XX XX II-OC
XX XX II-OC
XX XX II-OC
XX II-OC
XX II-OC
XX II-OC
XX II-OC
XX II-OC
XX II-OC
XX III-OC
XX II-OC
XX II-OC
XX II-OC
XX II-OC
XX II-OC
XX II-OC
XX III-OC
XX II-OC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cc gene expression (comprising a plurality of single exon nucleic acid
cc probes cited above, where each of the plurality of probes is separately
cc and addressably isolatable or amplifiable from the plurality), a single
cc exon microarray for measuring human gene expression, a method of
cc measuring human gene expression, a vector comprising the single exon
probe cited above, an ORF-encoded peptide comprising at least 8
cc contiguous amino acids of any of the above- mentioned amino acid
cs sequences (optionally with conservative amino acid substitutions), an
cc isolated antibody that binds specifically to a peptide cited above,
cc methods of selling and/or licensing single exon probes or microarrays to
caustomer desiring to measure gene expression, a method of providing
cc human gene expression data by subscription, and a computer-readable
cc estorage medium which contains a database having a plurality of records
cc each record including data on the expression of a single exon probe
cc expression analysis. The probes may be used as tools for surveying
cc tissues to detect the presence of expressed messages that contain their
cc specific exon, or in constructing genome-derived single exon microarrays.
cc alternative splicing events, in detecting and characterising
calterrations in the genomic locus that includes their exon, in assessing
cc alterations alterations, in priming the synthesis of mucleic acids,
cor in expressing the ORF-encoded peptide. The present sequence is a human
cc single exon probe of the innvention. Note: The sequence data for this
cor in electronic format directly from USPO at
corrects the protection of the printed specification, but was obtained
correctly form the proposed messages that contained on the proposed messages the proposed the proposed of the innvention.
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Best Local :
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                                                                                                                                                                                                                                                                                                                                   Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAS78228 standard; cDNA; 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     expressed in human cells or tissues. Also included are a spatially-addressable set of single exon nucleic acid probes for measuring human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to a nucleic acid probe for measuring human expression, comprising any of the 27,400 fully defined nucleotide
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                               30-MAR-2001; 2001WO-US008631
                                                                                                                 11-OCT-2001.
                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA encoding novel human diagnostic protein #14032.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seqdata.uspto.gov/sequence.html?DocID=20030194704
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                                                                                                                                                                                       WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      127 AAGAAGGTTCCTGCTGTGCCAGAAACC 101
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
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88.9%;
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Pred. No. 4.6;
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The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain (reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polynucleotides are also used in diagnostics as expressed sequence tags for identifying expressed conditions of (II) are therapy techniques to restore normal consequences. (I) is useful in gene therapy techniques to restore normal consequences of (II) or to treat disease states involving (II). (II) is consequence (II) and the bight markers and as a food consequence (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating disorders (Involving aberrant protein expression or biological activity. The convolving aperial protein expression or biological activity of an convolving aperial convolving approach of partitions in convolving aperial convolving approach and polynucleotide sequences have applications in convolving aperial convolving aperial convolving approach types of data and products dependent on DNA and convolving aperial convolving approach and products dependent on DNA and convolving aperial convolving approach and products dependent on DNA and convolving aperial convolving aperial convolving aperial convolving aperial convolving approach convo
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Best Local 9
                                                                                                                                                                                                                      Bovine; ss; EST; expressed sequence tag; lactation; LMFD; muscle deposition; fat deposition; genome mapping; gene i gene analysis; cattle breeding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 297 BP; 98 A; 57 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             31-MAR-2000; 2000US-00540217.
23-AUG-2000; 2000US-00649167.
                                                                                                                                                                                                                                                                                                                 Bovine EST associated with lactation/muscle/fat deposition
                                                                                                                                                                                                                                                                                                                                                             20-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABX40477 standard; cDNA; 421
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      12-JAN-1999;
                                              24-SEP-2001; 2001US-00960352.
                                                                                             26-SEP-2002.
                                                                                                                                       US2002137139-A1.
                                                                                                                                                                                 Bos Taurus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6 AATAAGGTGCCTGCGGTGCCAGAAACC 32
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                                                                                                                                                                                                                                                                                                                                                           (first entry)
      99US-0115707P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; Score 22.2; DB ; Pred. No. 5.2; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66 G; 76 T;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 5;
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                                                                                                                                                                                                                                                    identification;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CC (1) a transformed cell having a nucleic acid comprising an LMFD nucleic functions in the cell to cause termination of transcription and addition of polyadenylated ribonuclectides to a 3' end of the mRNA molecule; and C (2) determining a level or pattern of a molecule in a bovine cell or tissue comprising; (a) incubating a marker nucleic acid (comprising any complementary nucleic acid sequences or its complement or fragment) with a C complementary nucleic acid melecule obtained from the bovine cell or C complementary nucleic acid permits the detection of the molecule; and (b) c detecting the level or pattern of the complementary nucleic acid, where C c level or pattern of the molecule. The LMFD nucleic acid is used for the detection of the molecule. The LMFD nucleic acid is predictive of the C level or pattern of the molecule in a bovine cell or C determining a level or pattern of a molecule in a bovine cell or tissue. C it is useful for genome mapping, gene identification and analysis, cattle C breeding, preparation of constructs for use in cattle gene expression, or C for genetically improving cattle. The present sequence is one of the C present sequence was not shown in the specification but was obtained in C sendarts usnt conviscemence that Drown and an conviscemence of the USPTO web site:
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Best Local S
Matches 24
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 2; SEQ ID NO 5642; 245pp; English.
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(TAON/)
                                                                                                                                                                                                                           Probe; human; microarray; gene
                                                                                                                                                                                                                                                                                        Probe #62 for gene expression analysis in human cervical cell sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAI10129 standard; DNA; 460
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                                                                   WO200157278-A2
                                                                                                                                                                                                cervical cancer;
                                                                                                                                                                                                                                                                                                                                                              12-OCT-2001
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(MATH/) MATHIALAGAN N.
(TAON/) TAO N.
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                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6 AATAAGGTGCCTGCGGTGCCAGAAACC 32
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ilarity 88.9%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BP; 142
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Pred. No. 5
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                                                                                                                                                                                                                              expression; cervical epithelial cell;
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Best Local
                        04-FBB-2000; 2000US-0180312P.
26-MAY-2000; 2000US-0207456F.
30-JUN-2000; 2000US-0068408.
03-AUG-2000; 2000US-00632366.
21-SEP-2000; 2000US-0234687P.
27-SEP-2000; 2000US-0234589P.
04-OCT-2000; 2000GB-00024263.
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26-MAY-2000;
30-JUN-2000;
03-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present invention relates to human single exon nucleic acid probes (SENP). The present sequence is one such probe. The SENPs are derived from human HeLa cells. The SENPs can be used to produce a single exon microarray, which can be used for measuring human gene expression in a sample derived from human cervical epithelial cells. By measuring gene expression, the probes are therefore useful in grading and/or staging of diseases of the cervix, notably cervical cancer. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at
                                                                                                                                  30-JAN-2001; 2001WO-US000669
                                                                                                                                                            09-AUG-2001.
                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                         Human; foetal liver; gene expression; single exon nucleic acid probe;
                                                                                                                                                                                                                                                                   Human foetal liver single exon nucleic acid probe
                                                                                                                                                                                                                                                                                               01-FEB-2002
                                                                                                                                                                                                                                                                                                                         ABA51759
                                                                                                                                                                                                                                                                                                                                                  ABA51759 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim
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27-SEP-2000;
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MOLECULAR DYNAMICS
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; 2000US-00632366.
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26-MAY-2000; 2000US-0207456P.
30-JUN-2000; 2000US-00608408.
03-AUG-2000; 2000US-00632366.
21-SEP-2000; 2000US-0234687P.
27-SEP-2000; 2000US-0234359P.
04-OCT-2000; 2000GB-00024263.
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                         The present
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genetic disorder; s
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invention relates to single exon nucleic acid probes (SENP) sequence is one such probe. The probes are useful for microarray for predicting, measuring and displaying gene
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26-MAY-2000; 2000US-0207456P.
30-JUN-2000; 2000US-00608408.
03-AUG-2000; 2000US-00632366.
21-SEP-2000; 2000US-0234687P.
27-SEP-2000; 2000US-0234635P.
04-OCT-2000; 2000GB-00024263.
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1587
                                         The present invention relates to single exon nucleic acid probes for measuring human gene expression in a sample derived from human heart. The present sequence is one such probe. The probes may be used for predicting, measuring and displaying gene expression in samples derived from the human heart via microarrays. By measuring gene expression, the probes are useful for predicting, diagnosing, grading, staging, monitoring and prognosing diseases of the human heart and vascular system e.g. cardiovascular disease, hypertension, cardiac arrhythmias and congenital heart disease. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; gene expression; heart; microarray; vas cardiovascular disease; hypertension; cardiac congenital heart disease; ss.
  Sequence
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                                                                                                                                                                                                                                                                                                                                                      Claim 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                nucleic acid probes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
  BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BP; 163
  163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA;
                                                                                                                                                                                                                                                                                                                                                    53; 530pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           expression analysis in human heart cell sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      69.4%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     460
     87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              heart; microarray; vascular system; probe;
  Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ξ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 22.2;
Pred. No. 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred.
  112
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rank DR
                                                                                                                                                                                                                                                                                                                                                                                                                                for analyzing gene
  G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64
  98 T; 0 U;
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     0 Other
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                expression
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Query Match Best Local S

Local Similarity

69.4%;

Score 22.2; Pred. No. 5.

DB 4;

Length 460;

Conservative

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Indels

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Matches

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RESULT 48
AAK25505
ID AAK25
RESULT 49
AAKOOO66
ID AAKOO
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AC AAKOO
AC AAKOO
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                                                                                                                                            Query Match
Best Local S
Matches 24
         Human brain expressed single exon probe SEQ ID NO:
                                                                                                                                                                                                        probes which are derived from genomic sequences expressed in the human bone marrow. They can be used to measure gene expression in bone marrow samples, which may enable the improved diagnosis and treatment of cancers such as lymphoma, leukaemia and myeloma. The present sequence is one of
                                                                                                                                                                                                                                                                                                                           Penn
                                                                                                                                                                                                                                                                                                                                                                                                        04-FEB-2000;
26-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; bone marrow expressed exon; gene expression analysis; probe; microarray; cancer; leukaemia; lymphoma; myeloma; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAK25505 standard; DNA; 460
                            05-NOV-2001
                                             AAK00066;
                                                             AAK00066 standard;
                                                                                                                                                                              Sequence 460 BP; 163 A; 87 C; 112 G; 98 T; 0 U; 0 Other;
                                                                                                                                                                                                                                            The present invention provides a number of single exon nucleic
                                                                                                                                                                                                                                                             Example 4;
                                                                                                                                                                                                                                                                                                         WPI; 2001-488900/53.
                                                                                                                                                                                                                                                                                                                                                              04-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                             03-AUG-2000;
21-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                   30-JAN-2001; 2001WO-US000668
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200157276-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human bone marrow expressed single exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAK25505;
                                                                                                                                                                                                 the probes of the invention
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                                                                                                                                                                                                                                                                                                                                            (MOLE-)
                                                                                                                                                                                                                                                                                                                           SG
                                                                                                                                                                                                                                                                               expression
                                                                                                                                                                                                                                                                              genome-derived single exon nucleic acid probes useful for analyzing expression in human bone marrow.
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                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                            MOLECULAR DYNAMICS INC.
                                                                                                         AAGAAGGTTCCTGCTGCCAGAAACC 64
                                                                                                                      AATAAGGTGCCTGCGGTGCCAGAAACC 32
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                                                                                                                                                                                                                                                                                                                         Hanzel DK,
                                                                                                                                                                                                                                                             SEQ ID NO 62; 658pp + Sequence Listing; English
                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                            2000US-00608408.
2000US-00632366.
2000US-0234687P.
2000US-0236359P.
2000US-00024263.
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2000US-0207456P.
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                                                              DNA;
                                                                                                                                                    69.4%;
88.9%;
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                                                              460
                                                              ВP
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Pred. No. 5
                                                                                                                                            Mismatches
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                                                                                                                                                            Length 460;
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RESULT 50
ABS25073
ID ABS25
XX ABS25
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XX Human
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Best Local :
                                                                                                                                                                                                                                                                                                                                              Human; single exon nucleic acid probe; liver; cirrhosis; hyperlipoproteinaemia; hyperlipidaemia; hypercholesterolaemia; coronary heart disease; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     probes which are derived from genomic sequences expressed in the human brain. They can be used to measure gene expression in brain cell samples, which may enable the diagnosis and improved treatment of nervous system diseases such as Alzheimer's disease, multiple sclerosis, schizophrenia,
   04-FEB-2000; 2000US-0180312P
                                                                        30-JAN-2001; 2001WO-US000664.
                                                                                                                                                                                                                                                                                Homo sapiens.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABS25073
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    epilepsy and cancers. The present sequence is one of the probes of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present invention provides a number of single exon nucleic probes which are derived from genomic sequences expressed in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 4; SEQ ID NO 57; 650pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Single exon nucleic acid probes for analyzing gene expression in human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2001-483446/52
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27-SEP-2000;
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03-AUG-2000;
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26-MAY-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; brain expressed exon; gene expression analysis; probe; microarray; Alzheimer's disease; multiple sclerosis; schizophrenia; epilepsy; cancer;
                                                                                                                                          09-AUG-2001
                                                                                                                                                                                                               WO200157273-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human liver single
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2000US-00608408.

2000US-00632366.

2000US-023468TP.

2000US-0236359P.

2000GB-00024263.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        exon probe,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entry)
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88.9%;
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Pred. No. 5.7;
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Search completed: May 24, 2006, 05:55:19 Job time: 382.899 secs
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                                                                                                                                                                                                                          The invention relates to a single exon nucleic acid probe (SENP) (I) for measuring human gene expression in a sample derived from human adult liver, comprising one of 13109 defined nucleotide sequences given in the specification (or complements) fragments). The probe hybridises at high stringency to a nucleic acid molecule expressed in the human adult liver. (I) may be used for predicting, measuring and displaying gene expression in samples derived from human adult liver. The genes identified may be involved in genetic liver diseases such as cirrhosis, hyperlipoproteinaemia, hyperlipidaemia and hypercholesterolaemia which is associated with coronary heart disease. ABS25011-ABS51005 represent human liver single exon nucleic acid probes of the invention. Note: The sequence information for this patent does not appear in the printed specification but was obtained in electronic format directly from WIPO at fip.wipo.int/pub/published_pct_sequences
                                                                                                                                                 Query Match
Best Local S
Matches 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-MAY-2000; 2000US-0207456P.
30-JUN-2000; 2000US-00608408.
03-AUG-2000; 2000US-023366.
21-SEP-2000; 2000US-0234687P.
27-SEP-2000; 2000US-0236359P.
04-OCT-2000; 2000GB-00024263.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1; SEQ ID NO 63; 658pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human adult liver.
                                                                                                                                                                                                                        Sequence 460 BP; 163 A; 87 C; 112 G; 98 T; 0 U; 0 Other;
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JOURNAL COMMENT
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DW414483
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Query Match
Best Local Similarity
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Henan Normal University
No. 148 Jianshe Road, Xinxiang City, P.R.China
Tel: 00863733328084
Fax: 00863733326524
                                                                                                                             Liver regeneration after Unpublished (2003) Contact: Cun-Shuan Xu
                                                                                                                                                                                                                  sapiens cDNA, mRNA sequence.
DW414483
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Mammalia; Eutheria;
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                                                                                                                                                                 Hominidae; Homo.
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0.04;
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BY107183
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       Length 316;
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mRNA sequence.
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BE543005.1 GI:
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DA567416
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                                                                                                                                                                                                                                             Tel: 81-438-52-3975
Fax: 81-438-52-3986
Email: flj-cdna@nifty.com
                   BE543005
601068927F1 NIH_MGC_12
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Contact: Takao Isogai
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EST.
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2-6-7 Kazusa-Kamatari, K
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Genome Res. 16 (1),
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HELAC1 Homo sapiens
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, 55-65 (2006)
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                      Homo
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51 TTATTAATAAGGTGCCTGCGGTGCCAGAAACC
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1 (bases 1 to 549)

2 (skine, M., Tsuritani, K., Wakaguri, H., Yamashita, R., Yamamoto, J., Sekine, M., Tsuritani, K., Wakida, N., Yamashita, S., Sugiyama, T., Saito, K., Isono, Y., Irie, R., Kushida, N., Yokoi, T., Kondo, H., Magatsuma, Yoneyama, T., Otsuka, R., Kanda, K., Yokoi, T., Kondo, H., Magatsuma, Murakawa, K., Ishida, S., Ishidashi, T., Takahashi-Fujii, A., Murakawa, K., Ishidashi, T., Takahashi, T., Takaha
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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Kushida, N.,
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BF911801.1
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                                                                                                                                                       1 (bases 1 to 443)
Dias Neto, E., Garcia Correa, R., Verjovski-Almeida, S., Briones, M.R., Dias Neto, E., Garcia Correa, R., Verjovski-Almeida, S., Briones, M.R., Nagai, M.A., da Silva, W. Jr., Zago, M.A., Bordin, S., Costa, F.F., Goldman, G.H., Carvalho, A.F., Matsukuma, A., Baia, G.S., Simpson, D.H., Gridman, G.H., Carvalho, A.F., Matsukuma, A., Baia, G.S., Simpson, D.H., O'Hare, M.J., Soares, F., Brentani, R.R., Reis, L.F., de Souza, S.J. and Simpson, A.J.
Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
Rua Prof. Antonio Prudente 109, 4 and
                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                             BF911801 443 bp mRt
MR4-UT0051-101100-001-a10 UT0051 Homo
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 (bases 1 to 890)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                    Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov Tissue Procurement: ATCC
                                                        Contact: Simpson A.J.G.
                                                                                                                                      Shotgun sequencing of the human transcriptome with ORF
                                                                                                                                                                                                                                                                                                    Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (human)
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Mammalia; Eutheria;
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                                                                                                  Proc. Natl. Acad. Sci. U.S.A. 97
                                                                                                                   sequence tags
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/note="Organ: cervix; Vector: pCMV-SPORT6; Site_1: NotI; Site_2: SalI; Cloned unidirectionally. Primer: Oligo dT. Average insert size 1.4 kb. Library prepared by Life Technologies."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /clone="IMAGE:3455214"
/tissue_type="cervical carcinoma cell line"
/lab_host="DH10B"
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|mol_type="mRNA"
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Pred. No. 0.0065
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                                                                                                                                                                                                                                                                                  No. 148 Jianshe Road,
Tel: 00863733328084
                                                                                                                                                                                                                                                                                                                      Henan Bioengineering Key Lab
Henan Normal University
                                                                                                                                                                                                                                                                                                                                                                Contact: Cun-Shuan Xu
                                                                                                                                                                                                                                                                                                                                                                              Liver regeneration 
Unpublished (2003)
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
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High quality sequence start: 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fax: +55-11-2707001
Email: asimpsom@ludwig.org.br
Email: asimpsom@ludwig.org.br
This sequence was derived from the FAPESP/LICR Human Cancer Genome
Project. This entry can be seen in the following URL
(http://www.ludwig.org.br/scripts/gethtml2.pl?t1=MR4&t2=MR4-UT0051-
101100-001-a10&t3=2000-11-10&t4=1)
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/db xref="taxon:9606"
/db xref="taxon:9606"
/dev_stage="Adult"
/clone_lib="UT0051"
/clone_lib="UT0051"
/note="Organ: uterus tumor; Vector: puc18; Site_1: SmaI;
/note="Organ: uterus tumor; Vector: products
derived from ORESTES PCR (U.S. Letters Patent application
No. 196,716 - Ludwig Institute for Cancer Research)
profiles into the pUC 18 vector. Reverse transcription of
tissue mRNA and cDNA amplification were performed under
low stringency conditions."
                                                                                                                                                                                                                                                xucs@x263.net
                                                                                                   /organism="Homo Bapiens"
|mol type="mnRM;
|db_xref="raxon:9606"
|/tissue_type="liver"
|/clone_lib="Human liver regeneration after partial
                                                                                                                                                                                                                        ocation/Qualifiers
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|mol_type="mRNA"
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89.7%;
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87.5%;
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                                                 Henan Bioengineering Key Lab
Henan Normal University
No. 148 Jianshe Road, Xinxiang
                                                                                           Liver regeneration after Unpublished (2003) Contact; Cun-Shuan Xu
                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
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Henan Normal University
No. 148 Jianshe Road, Xinxiang
Tel: 00863733328084
Fax: 00863733326524
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Mammalia; Eutheria;
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DW443699
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             Email: xucs@x263.net.
                                                                                                                                                                                                             Homo sapiens
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                                                                                                                                                                                                                                                                              sapiens cDNA,
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                                                                                                                                        Xu,C.S.
                                                                                                                                                                    Hominidae; Homo.
                                                                                                                                                                                                                        Homo sapiens (human)
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                                                                                                                                                    (bases 1 to 287)
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                          00863733328084
00863733326524
                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    xucs@x263.net.
Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /mol_type="mRNA"
/db_xref="taxon:9606"
/tissue_type="liver"
/clone_lib="Human liver regeneration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
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89.7%;
                                                                                                                                                                                                                                                                             mRNA sequence.
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Pred. No. 14
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nepatectomy Homo
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DW424288
LOCUS
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KEYWORDS
SOURCE
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ORGANISM
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DW422532
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Henan Normal University
No. 148 Jianshe Road, Xinxiang City, P.R.China
Tel: 008637733328084
Fax: 00863733326524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Liver regeneration af
Unpublished (2003)
Contact: Cun-Shuan Xu
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                                                                            sapiens cDNA, mRNA sequence.
DW422532
 Eukaryota; Metazoa;
Mammalia; Eutheria;
                          Homo sapiens
                                     Homo sapiens (human)
                                                                DW422532.1 GI:84924088
                                                                                                     HHAGE022262 Human liver regeneration
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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/db_xref="taxon:9606"
/tissue type="liver"
/clone_lib="Human liver regeneration after partial
                                                                                                                                                                                                                                                                                                             /mol_type="mRNA"
/db xref="taxon:966"
/tissue_type="liver"
/clone_Tib="Human liver regeneration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         organism="Homo sapiens"
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Pred. No. 15;
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hepatectomy Homo
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DW415682
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Liver regeneration after PH
Unpublished (2003)
Contact: Cun-Shuan Xu
                        4
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Henan Normal University
No. 148 Jianshe Road, Xinxiang
                                                                                                                                                                                                                                                                                               Liver regeneration after Unpublished (2003) Contact: Cun-Shuan Xu
                                                                                                                                                                                                                                                                                                                                       Xu,C.S.
                                                                                                                                                                                                                                                                                                                                                 Hominidae; Homo.
1 (bases 1 to 3
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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Henan Normal University
                                                                                                                                                                                                                                               Tel: 00863733328084
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/mol type="mRNA"
/db_xref="taxon:9606"
/tissue type="liver"
/clone_Tib="Human liver regeneration
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'tissue_type="liver"
'clone_lib="Human liver regeneration
                                                                                                                                                                 organism="Homo sapiens"
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Pred. No. 15;
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RESULT 12
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                                                       KEYWORDS
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                                                                                                                                                                                                                                  323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: asimpson@ludwig.org.br
This sequence was derived from the FAPESP/LICR Human Cancer Genome
Project. This entry can be seen in the following URL
(http://www.ludwig.org.br/scripts/gethtml2.pl?tl=IL2&t2=IL2-UT0073-
161100-246-G12&t3=2000-11-16&t4=1)
Seq primer: puc 18 forward
High quality sequence stop: 404.
Location/Qualifiers
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1 (bases 1 to 405)

1 (bases 1 to 405)

Dias Neto, B., Garcia Correa, R., Verjovski-Almeida, S., Briones, M.R., Dias Neto, B., Garcia Correa, R., Zago, M.A., Bordin, S., Costa, F.F., Nagai, M.A., da Silva, W. Jr., Zago, M.A., Bala, G.S., Simpson, D.H., Goldman, G.H., Carvalho, A.F., Matsukuma, A., Bala, G.S., Simpson, D.H., Brunstein, A., deoliveira, P.S., Bucher, P., Jongeneel, C.V., O'Hare, M.J., Soares, F., Brentani, R.R., Reis, L.F., de Souza, S.J. and
                                                                       IL2-UT0073-191100-246-G12
BF912537
BF912537.1 GI:12303995
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Ludwig Institute for Cancer Research
Rua Prof. Antonio Prudente 109, 4 andar, 01509-010,
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BF912441
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                Homo sapiens (human)
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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/mol_type="mRNA"
/db_xref="taxon:9606"
/dev_stage="Adult"
/clone_lib="UT0073"
                                                                                                                                                                                                                                                                                                                                                                                                         /note="Torgan: uterus tumor; Vector: puc18; Site 1: Smal; Site 2: Smal; A mini-library was made by cloning products derived from ORESTES PCR (U.S. Letters Patent application No. 196,716 - Ludwig Institute for Cancer Research) profiles into the pUC 18 vector. Reverse transcription of tissue mRNA and cDNA amplification were performed under low stringency conditions."
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                Henan Bioengineering Key Lab
Henan Normal University
                                                   Liver regeneration after Unpublished (2003) Contact: Cun-Shuan Xu
                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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Ludwig Institute for Cancer Research
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/db_xref="taxon:9606"
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Ludwig Institute for Cancer Research
Rua Prof. Antonio Prudente 109, 4 and
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Fax: 00863733326524
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Seq primer: puc 18 forward
High quality sequence stop: 409.
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This sequence was derived from
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Fax: +55-11-2707001
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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/mol type="mRNA"
/db_xref="taxon:9606"
/tissus type="liver"
/clone_lib="Human liver r
/notes Torgan: uterus tumor; Vector: puc18; Site_1: SmaI; /notes Torgan: uterus tumor; Vector: puc18; Site_1: SmaI; A mini-library was made by cloning products derived from ORESTES PCR (U.S. Letters Patent application No. 196,716 - Ludwig Institute for Cancer Research) profiles into the pUC 18 vector. Reverse transcription of tissue mRNA and cDNA amplification were performed under
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420 bp mRNA linear EST 11-APR-2000 bb44c01.yl NIH MGC 12 Homo sapiens cDNA clone IMAGE:2986080 5' similar to SW:VE6_HPV18 P06463 E6 PROTEIN. ;, mRNA sequence.
                 Homo
                                                                                          BE018031 509 bp mRNA linear EST 06-JUN-2000 bb73c04.yl NIH MGC 12 Homo sapiens cDNA clone IMAGE:3048006 5' similar to SW:VE6_HPV18 P06463 E6 PROTEIN. ;, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                              BE018031
BE018031.1 GI:8277975
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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CDNA Library Arrayed by: The I.M.A.G.B. Consortium (LLNL)
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: MGC clone distribution information can be
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/note="Organ: cervix; Vector: pCMV-SPORT6; Site_1: NotI; Site_2: SalI; Cloned unidirectionally. Primer: Oligo dT. Average insert size 1.4 kb. Library prepared by Life Technologies."
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/mol_type="mRNA"
/db_xref="taxon:9606"
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Tissue Procurement: ATCC
                                                                                                                                                                                           Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: Incyte Genomics, Inc.
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information
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1 (bases 1 to 742)

1 (bases 1 to 742)

NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)
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CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Washington University Genome Sequencing
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
image.llnl.gov/image/html/iresources.shtml
seq primer: -40RP from Gibco
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1 (bases 1 to 509)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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http://image.llnl.gov
Plate: LLAM11265 row: h column: 11
High quality sequence stop: 738.
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/note="Organ: cervix; Vector: pCMV-SPORT6; Site_1: NotI; Site_2: SalI; Cloned unidirectionally. Primer: Oligo dT. Average insert size 1.4 kb. Library prepared by Life Technologies."
/organism="Homo sapiens"
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/db_xref="taxon:9606"
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/tissue_type="cervical carcinoma cell line"
/lab_host="DH10B"
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1 (bases 1 to 748)

NIH-MCC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Ge
Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-remail.nih.gov

Tissue Procurement: ATCC
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  103
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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602996552F1 NIH_MGC_12 Homo sapiens
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Similarity 89.7%;
                                                                                               Similarity
                                       TTAATAAGGTGCCTGCGGTGCCAGAAACC 32
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/note="Organ: cervix; Vector: pCMV-SPORT6; Site 1: Not1;
Site_2: Sall; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 1.4 kb. Library prepared by Life
Technologies."
                                                                                                                                                                            /clone_lib="NIH_MGC_12"
/note="Organ: cervix; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: SalI; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 1.4 kb. Library prepared by Life
Technologies."
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/lab_host="DH10B"
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/lab host="DH10B"
/close lib="NTU MCC 13"
                                                                                                                                                                                                                                                                                                                                      organism="Homo sapiens"
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/db_xref="taxon:9606"
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recciecedieccagaaacc 131
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Pred. No. 1
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RESULT 20
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                                Hominidae; Homo.

1 (bases 1 to 827)

NIH-MCC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Ge
Unpublished (1999)

Contact: Robert Strausberg, Ph.D.
Email: cgapbs-remail.nih.gov
Tissue Procurement: ATCC
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BI255152.1 GI:14808275
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Location/Qualifiers
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Plate: LLAM11257 row: m column: 12
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Contact: Robert Strausberg, Ph.D.
Email: cgapbs-remail.nih.gov
Tissue Procurement: ATCC
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1 (Dases 1 to 758)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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                cDNA Library Preparation: Life Technologies, Inc
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Site_2: Sall; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 1.4 kb. Library prepared by Life
Technologies."
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89.7%;
Arrayed by: Incyte Genomics,
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Pred. No. 17;
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Plate: LLAM11257 row: a column: 21
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602943381F1 NIH_MGC_12 Homo
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Clone distribution: MGC clone distribution information
found through the I.M.A.G.B. Consortium/LLNL at:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                          Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unpublished (1999)
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                                                                                                                                                                                                                                        quality sequence stop: 803.
Location/Qualifiers
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/clone_lib="NH1MGC_12"
/clone_lib="NHH_MGC_12"
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Site_2: Sall; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 1.4 kb. Library prepared by Life
Technologies."
/tissue_type="cervical carcinoma cell line"
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Site_2: SalI; Cloned unidirectionally. Primer: Oligo dT.
Site_2: salI; cloned unidirectionally prepared by Life
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/clone="IMAGE:5106332"
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mol_type="mRNA"
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IMAGE:5106332 5',
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BX400902
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                                                                                                                                                                                                                                                                                                                                     Local Similarity
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                                                                              BB546557 856 bp mRNA line 601076564F1 NIH_MGC_12 Homo sapiens cDNA clone mRNA sequence.
                                                                                                                                                                                                                                                                        4 TTAATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Li,W.B., Gruber,C., Jessee,J. and Polayes,D.
Full-length cDNA libraries and normalization
Unpublished (2001)
On May 13, 2003 this sequence version replaced gi:30614402.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        There is a virtual CDNA representing this cluster. For more information about this cluster and the virtual cDNA, see http://www.genoscope.cns.fr/cdna?s=CSODK004BB02QP1&c=4578.r. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genoscope - Centre National de Sequencage
2 rue Gaston Cremieux, CP 5706 - 91057 EVRY cedex - FRANCE
2 rue Gaston Cremieux, CP 5706 - 91057 EVRY cedex - FRANCE
Email: seqref@genoscope.cns.fr
1st strand cDNA was primed with a NotI-oligo(dT) primer. Five prime
end enriched, double-strand cDNA was digested with Not I and cloned
into the Not I and EcoR V sites of the pCMVSPORT 6 vector. Library
was normalized. Library was constructed by Life Technologies, a
division of Invitrogen. This sequence belongs to sequence cluster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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                                       BE546557.1
                                                               BE54655
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1 (bases 1 to 833)
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  sapiens (human)
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                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone lib="Homo sapiens HELA CELLS COT 25-NORMALIZED" /note="lst strand cDNA was primed with a NotI-oligo(dT) primer. Pive prime end enriched, double-strand cDNA was digested with Not I and cloned into the Not I and EcoR V
                                                                                                                                                                                                                                                                                                                                                                                                                        sites of the pCMVSPORT 6 vector. Library was normalized."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone="CS0DK004YC04"
/cell_type="HELA CELLS COT 25-NORMALIZED"
/cell_line="HELA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                         GI:9775202
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89.7%;
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Pred. No. 17
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Pred. No. 17;
                                                                                                                                                                                                                                                                                                                 Mismatches
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BE544755
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                                                                                                                                                                                                                  Hominidae; Homo.

1 (bases 1 to 922)

NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian

Unpublished (1999)
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Tissue Procurement: ATCC
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: Incyte Genomics, Inc.
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
plate: LLAM8460 row: o column: 15
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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NHH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
                                            found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov plate: LLAM8457 row: h column: 06
                                                                                                                                                                   Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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                                                                                                                                                                                                                                                                                                                                                                                                                  mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (human)
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                                                                                               CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: Incyte Genomics, Inc.
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information
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                              quality sequence stop: 717.
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/note="Organ: cervix; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: SalI; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 1.4 kb. Library prepared by Life
Technologies."
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/tissue_type="cervical carcinoma cell line'
lab_host="DH10B"
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            ocation/Qualifiers
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mol_type="mRNA"
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89.7%;
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Pred. No. 17;
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Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: Incyte Genomics, Inc.
cDNA Sequencing by: Incyte Genomics, Inc.
DNA Sequencing by: Incyte Genomics, Inc.
found distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
plate: LLAMI1277 row: n column: 13
                     4 TTAATAAGGTGCCTGCGGTGCCAGAAACC 32
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1 (bases 1 to 1043)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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/note="Organ: cervix; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: Sall; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 1.4 kb. Library prepared by Life
Technologies."
                                                                                                                                                                                  /note="Organ: cervix; Vector: pCMV-SPORT6; Site_1: NotI; Site_2: Sali; Cloned unidirectionally. Primer: Oligo dT. Average insert size 1.4 kb. Library prepared by Life Technologies."
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/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:3461429"
                                                                                                                                                                                                                                                                                                                                                                           organism="Homo sapiens"
|mol_type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                    ocation/Qualifiers
                                                                                                                                                                                                                                                                       clone
                                                                                                                                                                                                                                                                                        tissue_type="cervical carcinoma cell line"
lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                    clone="IMAGE:5114316"
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89.7%;
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89.7%;
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                                                                                               Score 24.2;
Pred. No. 1
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AI747399
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                                                                                                                                                                                                                                                                                                                                                                                                   213
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi; Muroidea; Muridae; Murinae; Mus.

1 (bases 1 to 554)
Marra, M., Hillier, L., Kucaba, T., Martin, J., Beck, C., Wylie, T., Underwood, K., Steptoe, M., Theising, B., Allen, M., Bowers, Y., Person, B., Swaller, T., Gibbons, M., Pape, D., Harvey, N., Schurk, R., Ritter, E., Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, R.,
                                                                                                                                                                                                                                             AI747399 554 bp mRNA linear EST ul05h08.yl Sugano mouse kidney mkia Mus musculus cDNA cl mAGE: 2065215 5' similar to gb:X57958 608 RIBOSOMAL PROT (HUMAN); gb:M29015 Mouse ribosomal protein L7 (MOUSE);
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: Incyte Genomics, Inc. DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov http://image.llnl.gov k column: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 1114)
NIH-MGC http://mgc.nci.nih.gov/.
NATional Institutes of Health, Mammalian Gene Collection (MGC)
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602967170F1 NIH_MGC_12 Homo
mRNA sequence.
BI257598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
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                                                                                                                                                                Mus musculus (house mouse)
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/note="Organ: cervix; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: SalI; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 1.4 kb. Library prepared by Life
Technologies."
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/tissue_type="cervical carcinoma cell line"
/lab_host="DH10B"
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/db_xref="taxon:9606"
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cDNA clone IMAGE:5106952
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AA686665
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       Contact: Lee, NH
                        Other_EST8: TC44726
                                       7667285
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TITLE
JOURNAL
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Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
                                                       Comparative expressed-sequence-tag analysis of differential gene expression profiles in PC-12 cells before and after nerve growth
                                                                                                            1 (bases 1 to 202)
Lee, N. H., Weinstock, K. G., Kirkness, E. F., Earle-Hughes, J. Fuldner, R. A., Marmaras, S., Glodek, A., Gocayne, J. D., Adan Kerlavage, A. R., Fraser, C. M. and Venter, J. C.
                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                     Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                  AA686665.1 GI:2673263
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This clone is available royalty-free through LLNL; contact the
IMAGE Consortium (info@image.llnl.gov) for further information.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tel: 314 286 1800
Fax: 314 286 1810
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Waterston, R. and Wilson, R.
The WashU-NCI Mouse EST Project 1999
Proc. Natl. Acad. Sci.
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/clone lib="Sugano mouse kidney mkia"
/note="Organ: kidney; Vector: pw818S-FL3; Site 1: DraIII
(CACTGTGTGG); Site 2: DraIII (CACCATGTG); lst strand cDNA
was primed with an oligo(df) primer
[ATGTGGCCTTTTTTTTTTTTTTTT]; double-stranded cDNA was
ligated to a DraIII adaptor [TGTTGGCCTACTGG], digested
and cloned into distinct DraIII sites of the pME18S-FL3
vector (5' site CACTGTGTG, 3' site CACCATGTG). XhoI should
be used to isolate the cDNA insert. Size selection was
performed to exclude fragments <1.5kb. Library
constructed by Dr. Sumio Sugano (University of Tokyo
Institute of Medical Science). Custom primers for
sequencing: 5' end primer CTTCTGCTCTAAAAGCTGCG and 3' end
primer CGACCTGCAGCTCGAGCACA."
                              treatment
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/mol_type="mRNA"
/strain="C57BL"
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lab_host="DH10B"
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Pred. No. 20;
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   U.S.A. 92, 8303-8307 (1995)
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Adams,M.D.,
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                                                                                                                                                                                                                                                                                                                                                                                        The Institute for Genomic Research 9712, Medical Center Drive, Rockvi. Tel: (301)-838-3529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Comparative expressed-sequence-tag analysis of differential gene expression profiles in PC-12 cells before and after nerve growth
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Lee, N. H., Weinstock, K.G., Kirkness, E.F., Barle-Hughes, J.A.,
Fuldner, R.A., Marmaras, S., Glodek, A., Gocayne, J.D., Adams, M.D.,
Kerlavage, A.R., Fraser, C.M. and Venter, J.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Euarchontoglires; Glires; Rodentia; Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
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EST110842 Rat PC-12 cells, NGF-treated (9 days) Rattus norvegic
cDNA clone RPNBN47 5' end similar to Ribosomal protein L7, mRNA
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Seq primer: M13 Reverse
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                                                                                                                                                                                                                                                                                                                : (301)-838-0208
il: nhlee@tigr.org
primer: M13 Reverse.
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2, Medical Center Drive, Rockville, MD 20850, USA
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/clone lib="Rat PC-12 cells, NGF-treated (9 days)"
/note="Vector: pBluescript SK-; Site_1: EcoRI; Site_2:
XhoI; poly(A)+ RNA was purified from 9-day NGF treated
PC12 cells. cDNA was constructed using an oligo-dT primer
and directionally cloned using the Lambda ZAP II Vector
Kit by Stratagene"
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/mol_type="mRNA"
/mol_type="mRNA"
/db_xref="ATCC (inhost):2005132"
/db_xref="RATCC (inhost):2005132"
/db_xref="RatCC (inhost):2005132"
/clone_lib="Rat PC-12 cells, NGF-treated (9 days)"
/clone_lib="Rat PC-12 cells, NGF-treated (9 days)"
/note="Vector: pBluescript SK.; Site_1: EcoRI; Site_2:
XhoI; poly(A)+ RNA was purified from 9-day NGF treated
PC12 cells. cDNA was constructed using an oligo-dT primer
and directionally cloned using the Lambda ZAP II Vector
Kit by Stratagene"
                                                                                                                                           /organism="Rattus norvegicus"
/mol type="mRNA"
/mol type="mRNA"
/db_xref="NTCC (inhost):2005002"
/db_xref="NATCC (inhost):2005002"
/db_xref="NATCC (inhost):2005002"
/clone="RPNBN47"
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Pred. No. 21;
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Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
Comparative expressed-sequence-tag analysis of differential gene expression profiles in PC-12 cells before and after nerve growth factor treatment
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Henan Normal University
No. 148 Jianshe Road, Xinxiang City, P.R.China
Tel: 00863733328084
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                                              1 (bases 1 to 299)
Lee, N.H., Weinstock, K.G., Kirkness, E.F., Earle-Hughes, J.A., Fuldner, R.A., Marmaras, S., Glodek, A., Gocayne, J.D., Adams, M. Kerlavage, A.R., Fraser, C.M. and Venter, J.C.
                                                                                                                                                                                                                                               EST108189 Rat PC-12 cells, untreated Rattus norvegicus similar to Ribosomal protein L7, mRNA sequence.
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Contact: Cun-Shuan
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Mammalia; Butheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
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EST.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /mol_type="mRNA"
/db_xref="taxon:10116"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 organism="Rattus norvegicus"
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D 7667285
Other ESTs: TC44726
Contact: Lee, NH
The Institute for Genomic Research
9712, Medical Center Drive, Rockville, MD
Tel: (301)-838-329
Tel: (301)-838-0208
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Henan Normal University
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Unpublished (2003)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DW300318.1 GI:84528697
                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAAAAGGTTCCTGCGGTGCCAGAAACC 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AATAAGGTGCCTGCGGTGCCAGAAACC 32
AAAAAGGTTCCTGCGGTGCCAGAAACC 173
                                    AATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                       148 Jianshe Road, Xinxiang City, P.R.China : 00863733328084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (bases 1 to 323)
                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                        00863733326524
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Rattus norvegicus"
/mol_type="mRNA"
/mol_type="mRNA"
/db_xref="ATCC (inhost):2002867"
/db_xref="harCC (inhost):2002867"
/db_xref="harCC (inhost):2002867"
/db_xref="harCC (inhost):2002867"
/db_xref="harCC (inhost):2002867"
/clone_lib="RATCC (inhost):2002867"
/clone_lib="R
                                                                                                                                                                                     /organism="Rattus norvegicus"
/mol_type="mRNA"
/db_xref="taxon:10116"
/tlssue_type="liver"
/clone_Tib="Liver regeneration after partial hepatectomy"
                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           74.48;
92.68;
                                                                                                     74.4%;
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Pred. No. 22;
0; Mismatches
                                                                               Score 23.8; D
Pred. No. 22;
0; Mismatches
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after partial hepatectomy Rattus
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VERSION
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AUTHORS
                    REFERENCE
AUTHORS
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BE127031
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AA685923
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PUBMED
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                            41
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               1 (bases 1 to 344)
Sleeman, M.A., Murison, J.G.,
                                                                                                                              Rattus norvegicus
                                                                                                                                                                         EST
                                                                                                                                                                                           BE127031.1 GI:8549739
                                                                                                                                                                                                                    BE12703:
                                                                                                                                                                                                                                      mRNA sequence.
                                                                                                                                                                                                                                                           BE127031
DEPA0780 Rat Lambda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Other_ESTs: TC44726
Contact: Lee, NH
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McGrath, A., Grierson, A.,
                                                                                                                                                Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: nhlee@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Proc. Natl. Acad. Sci.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rattus norvegicus (Norway rat)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kit by Stratagene"
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                                                                                                                                                                                                                                                                               344
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1 (bases 1 to 341)
Lee,N.H., Weinstock,K.G., Kirkness,E.F., Earle-Hughes,J.A.,
Fuldner,R.A., Marmaras,S., Glodek,A., Gocayne,J.D., Adams,M.D.,
Fulavage,A.R., Fraser,C.M. and Venter,J.C.
Comparative expressed-sequence-tag analysis of differential gene
expression profiles in PC-12 cells before and after nerve growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA685923 341 bp mRNA linear EST 03-APR-19
EST108644 Rat PC-12 cells, NGF-treated (9 days) Rattus norvegicus
cDNA clone RPNAD62 5' end similar to Ribosomal protein L7, mRNA
                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eut
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The Institute for Genomic Research
9712, Medical Center Drive, Rockvi
Tel: (301)-838-3529
Fax: (301)-838-0208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note=TVector: pBluescript SK-; Site 1: EcoRI; Site 2: XhoI; poly(A)+ RNA was purified from 9-day NGF treated PC12 cells. cDNA was constructed using an oligo-dT primer and directionally cloned using the Lambda ZAP II Vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Rattus norvegicus"
/mol_type="mRNA"
/db xref="ATCC (inhost):2003267"
/db_xref="taxon:10116"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone_lib="Rat PC-12 cells, NGF-treated (9 days)"
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Pred. No. 2
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                                                                                                                                                                                                                                                                                                                  Express
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3., Strachan,L., Kumble,K.D.,
Havukkala,I., Tan,P.L.J. and
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                                                                                                                                                                                                                                                                                                                  mRNA
Library
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                                                                                                                                                                                                                                                                                                                                             linear
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                                                                                                                                Euteleostomi;
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egicus cDNA 5',
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  Glenn, M.P., Watson, J.D.
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JOURNAL COMMENT
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ORGANISM
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AI229881
LOCUS
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 Query Match
Best Local S
Matches 25
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Best Local S
Matches 25
                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                   source
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Rattus sp.
Rattus sp.
Rattus sp.
Rattus sp.
Rattus sp.
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Bummalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AI229881
EST226576 Normalized rat embryo,
REMCN80 3' end, mRNA sequence.
                                                                                                                                                                                                                                                                   The Institute for Genomic Research 9712, Medical Center Drive, Rockvil Tel: (301)-838-3529
Fax: (301)-838-0208
Email: nhlee@tigr.org
Seq primer: M13-21
   Similarity
25; Conserv
                                                                                                                                                                                                                                                                                                                                                                              Unpublished (1998)
Contact: Lee, NH
                                                                                                                                                                                                                                                                                                                                                                                                                                1 (bases 1 to 346)
Lee, N. H., Glodek, A., Chandra, I., Mason, T.M., Quackenbush, J.,
Kerlavage, A.R. and Adams, M.D.
Rat Genome Project: Generation of a Rat EST (REST) Catalog &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6 AATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Genesis Research and Development Corporation Limited P.O. Box 50, 1 Fox St, Parnell, Auckland, New Zealand Tel: 0064 9 373 5600 Fax: 0064 9 373 2189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unpublished (2000)
Contact: Sleeman MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Expressed sequence cells
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAAAAGGTTCCTGCGGTGCCAGAAACC 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               primer: T3 forward
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              quality sequence stop: 344.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                   Index
                                                                                                                                                         /mol_type="mRNA"
/db_xref="ATCC (inhost):2036659"
/db_xref="taxon:10118"
                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      organism="Rattus norvegicus"
|mol_type="mRNA"
|strain="Dark-Agouti"
                                                                                   'dev_stage="embryo 8, 12, 18 dpc"
/clone_lib="Normalized rat embryo, Bento
/note="Vector: pT7T3Pac; Site_1: EcoRI;
                                                                                                                                                                                                                 organism="Rattus sp."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /cell_type="dermal papilla"
/clone_lib="Rat Lambda ZAP Express Library"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      db_xref="taxon:10116"
/tissue_type="vibrissae"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                              .one="REMCN80"
                  74.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             74.4%;
92.6%;
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; Score 23.8; D; Pred. No. 23; 0; Mismatches
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Pred. No. 22;
0; Mismatches
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                                     DB 1;
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DW311724/c
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Fax: (301)-838-0208
Email: nhlee@tigr.org
For clone availability please contact (tdbinfo@tdb_tigr.org) TC (Tentative
                                                                                                                                                                                                                                     69
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                                                   norvegicus cDNA, mRNA s
DW311724
DW311724.1 GI:84540107
EST.
                                                                                                       LRAGE072552 Liver regeneration after partial norvegicus cDNA, mRNA sequence.
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25; Conserv
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Lee, N. H., Weinstock, K.G., Kirkness, E.F., Earle-Hughes, J.A.,
Fuldner, R.A., Marmaras, S., Glodek, A., Gocayne, J.D., Adams, M.D.,
Fuldner, R.A., Fraser, C.M. and Venter, J.C.
Comparative expressed-sequence-tag analysis of differential gene
expression profiles in PC-12 cells before and after nerve growth
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Contact: Lee, NH
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Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
   Eukaryota;
                    Rattus norvegicus
                                   Rattus norvegicus (Norway rat)
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/note="Vector: pBluescript SK-; Site_1: EcoRI; Site_2:
XhoI; poly(A) + RAN was purified from 9-day NGF treated
PC12 cells. cDNA was constructed using an oligo-dT primer
and directionally cloned using the Lambda ZAP II Vector
Kit by Stratagene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Rattus norvegicus"
/mol_type="mRNA"
/db_xref="ATCC (inhost):2003904"
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Henan Normal University
No. 148 Jianshe Road, Xinxiang
                                                                                                                                                                                                                                                                                                                Liver regeneration after Unpublished (2003)
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Henan Normal University
No. 148 Jianshe Road, Xinxiang
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Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                       Contact: Cun-Shuan Xu
                                                                                                                                                                                                                                                                                                                                            Xu, C.S.
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|mol type="mRNA"
|db_xref="taxon:10116"
|/tissue_type="liver"
|/clone_lib="Liver regeneration after partial hepatectomy"
                                                                                                                                  /db xref="taxon:10116"
/tissue_type="liver"
/clone_lib="Liver regeneration
                                                                                                                                                                         organism="Rattus norvegicus"

mol_type="mRNA"
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           Contact: Sleeman Biology
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Genesis Research and Development Corporation Limited
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1 (bases 1 to 367)
1 (bases 1 to 367)
Sleeman, M.A., Murison, J.G., Strachan, L., Kumble, K.D., Glenn, M.P., Sleeman, M.A., Grierson, A., Havukkala, I., Tan, P.L.J. and Watson, J.D. McGrath, A., Grierson, A., Havukkala, I., Tan, P.L.J. and Watson, J.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Roslin, Midlothian, EH25 9PS, UNITED KINGDOM Single pass sequencing. Bases called and trimmed with phred v0.020425.c. Vector identified by cross match with the -minscore 20 and -minmatch 12 options. Vector:pBlueSCriptII(KS) R. Sitel: EcoRI R. Site2: NotI 5' Seq Primer M13F Normalised library constructed from pooled ovaries. Clones available from UK Centre for Functional Genomics in Farm Animals, Roslin Institute, Roslin, Midlothian, UK,
                         Unpublished (2000)
                                                                                                                                                                               Mammalia; Butheria; Buarchontoglires; Glires; Rod
Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
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Mammalia; Butheria; Euarchontoglires; Glires; Rodentia;
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Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 www.ark-genomics.org.
Location/Qualifiers
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/db_xref="taxon:9823"
/clone="C0003105_L12"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tissue_type="ovary"
clone_lib="CSEQRAN19"
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92.68;
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Pred. No. 23;
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RESULT 42
DW383713
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CV971013
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LRRGE01012 Liver regeneration after
norvegicus cDNA, mRNA sequence.
CY971013
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Fax: 0064 9 373 2189
Email: m.sleeman@genesis.co.nz
Seq primer: T3 forward
             DW383713
LRAGE028724 Liver
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                                                                                                                                                                                                                                                                                                                                             No. 148 Jianshe Road, Xinxiang
Tel: 00863733328084
Fax: 00863733326524
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Henan Normal University
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
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norvegicus cDNA, mRNA sequence.
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Location/Qualifiers
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                                                                                                                                                          Conservative
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                                                                                                                                                                                                                         /organism="Rattus norvegicus"
/mol type="mRNA"
/db_xref="traxon:10116"
/tissue_type="liver"
/clone_Iib="Liver regeneration after partial hepatectomy"
                                                                                                                                                                                                                                                                                                               ocation/Qualifiers
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/cell_type="dermal papilla"
/clone_lib="Rat Lambda ZAP
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/strain="Dark-Agouti"
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92.6%;
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92.6%;
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Pred. No. 23;
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Pred. No. 2
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DW383827
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Unpublished (2003) 
Contact: Cun-Shuan
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Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
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EST.
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Henan Normal University
No. 148 Jianshe Road, Xinxiang
                                                                                                                                                                          Email: xucs@x263.net.
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Henan Normal University
No. 148 Jianshe Road, Xinxiang
Tel: 00863733328084
Fax: 00863733326524
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Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
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DW383827
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nilarity 92.6%;
Conservative (
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ilarity 92.6%;
Conservative
                                                                    /organism="Rattus norvegicus"
/mol type="mRNA"
/db_xref="taxon:10116"
/tlssue type="liver"
/clone_lib="Liver regeneratio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Rattus norvegicus"
/mol type="mRNA"
/db_xref="taxon:10116"
/tissue_type="liver"
/clone_Tib="Liver regeneration
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DW386589/c
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                                                                                                                                                                                                                                                                                                                                    DW386589 401 bp mRNA linear EST 1
LRAGE029928 Liver regeneration after partial hepatectomy
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Henan Bioengineering Key Lab
Henan Normal University
No. 148 Jianshe Road, Xinxiang City, P.R.China
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    σ
                                                                                          Liver regeneration after PH
Unpublished (2003)
Contact: Cun-Shuan Xu
Henan Bioengineering Key Lab
                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Cun-Shuan Xu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Liver regeneration after 
Unpublished (2003)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      norvegicus cDNA, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LRAGE029676 Liver regeneration
                                                          Henan Normal University
No. 148 Jianshe Road, Xinxiang
                                                                                                                                                                                                                                       Rattus norvegicus
                                                                                                                                                                                                                                                                                         DW386589.1
                                                                                                                                                                                                                                                                                                        norvegicus cDNA, mRNĀ sequence.
DW386589
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAAAAGGTTCCTGCGGTGCCAGAAACC 141
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ilarity 92.6%;
Conservative
                                                                                                                                                                            bases 1 to 401)
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                                 00863733326524
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 xucs@x263.net.
                xucs@x263.net
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1. .398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tissue type="liver"
clone_lib="Liver regeneration after partial"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                organism="Rattus norvegicus"
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                                                                                                                                                                                                                                                                                         GI:84890711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  xref="taxon:10116"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 23.8; I
Pred. No. 23;
0; Mismatches
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                                                             City, P.R.China
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REFERENCE
AUTHORS
TITLE
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ORGANISM
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AA956776
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VERSION
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PUBMED
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     238 AMAMAGGTTCCTGCGGTGCCAGAMACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AP556776 EST 04-15 bp mRNA linear EST 04-JUL-199: UI-R-E1 Rattus norvegicus cDNA clone UI-R-E1-fr-f-11-0-UI 3' similar to gi|206735|gb|M17422|RATRPL7 Ratribosomal protein L7 mRNA, 5' end, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The sequence tag present in the cDNA between the NotI site and the oligo-dT track served to identify it as a clone from the normalized adult 18-Day-Embryo library. cDNA library Preparation: M. Fatima Bonaldo, Ph.D. Clone distribution: clones will be available through Research Genetics This clone is also available through the I.M.A.G.E. Consortium at LLNL (info@image.llnl.gov). IMAGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tel: 319 335 8250
Fax: 319 335 9565
Email: bento-soares@uiowa.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              On May 7, 1998 this sequence version replaced gi:3120471.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 (bases 1 to 415)
Bonaldo, M.F., Lennon, G. and Soares, M.B.
Normalization and subtraction: two approaches to facilitate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rattus norvegicus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        University of Iowa
375 Newton Road , 4156 MEBRF, Iowa City, IA 52242,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Coordinated Laboratory for Computational Genomics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8889548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genome Res. 6 (9), 791-806 (1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POLYA=No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Seq primer: M13 Forward
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  discovery
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rattus norvegicus (Norway rat)
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/dev stage="adult"
//dev stage="adult"
//lab host="DH10B (Life Technologies)"
//clone_lib="UI-R-E1"
//clone_lib="UI-R-E1"
//note="Vector: p7773D-PacI; Site_1: Not I; Site_2: Eco RI;
//note="Vector: p7773D-PacI; Site_1 library derived from the UI-R-E1 library: The UI-R-E0 library consisted of a mixture of lidraridually tagged normalized libraries constructed from 8, 12 and 18-day embryo. The tag is a string of 3-5 nucleotides present between the Not I site and the oligo-dT track which allows identification of the library of origin of a clone within the mixture. The subtracted library (UI-R-E1) was constructed as follows:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Rattus norvegicus"
/mol type="mRNA"
/db_xref="reaxon:10116"
/tissue type="liver"
/clone_Tib="Liver regeneration after partial hepatectomy"
                                                                                                                                                                                                                                                                                               /organism="Rattus norvegicus"
/mol_type="mRNA"
/mol_type="mRNA"
/strain="Sprague-Dawley"
/strain="Sprague-Dawley"
/clone="UI-R-E1-fr-f-11-0-UI"
/clone="UI-R-E1-fr-f-11-0-UI"
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
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Pred. No. 23;
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JOURNAL COMMENT
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ORGANISM
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Best Local S
Matches 25
Query Match
Best Local S
Matches 25
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Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
1 (bases 1 to 478)
    25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Wong P
University of Alberta
G502 Biological Sciences Centre, Edmonton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               light-induced retinal degeneration 
Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Grewal,R., Stepczynski,J., Erickson,T., Kelln,R.M., Darrow,R
Barsalou,L., Patterson,M.L., Organisciak,D.T. and Wong,P.
Specific changes in ribosomal protein gene expression during
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IGAM8 Rat Lambda Zap 4 h
norvegicus cDNA 5', mRNA
CF273504
CF273504.1 GI:47825552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6 AATAAGGTGCCTGCGGTGCCAGAAACC 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BACKWARD: T3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Email: pwwong@ualberta.ca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rattus norvegicus (Norway rat)
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780 492 9234
  Conservative
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                                                                                                    /note="Vector: Uni-ZAP XR; The Rat Lambda Zap 4 h light-exposed retina cDNA library was constructed from retinal RNA isolated from wanling male albino Sprague-Dawley rats, which were maintained in darkness for 40 days. At 61 days of age rats were exposed to intense visible light (490-580 nm; 1200 to 1400 lux) for 4 hours."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PCR amplified cDNA inserts from a pool of from which 3' ESTs had been derived was us
                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                            /tissue_type="retina"
/dev_stage="adult"
                                                                                                                                                                                                                                                                                                                                                                                 organism="Rattus norvegicus"
                                                                                                                                                                                                                                     ibrary
                                                                                                                                                                                                                                                                                                                                                             strain="Sprague-Dawley"
                                                                                                                                                                                                                                                                                                                                          _xref="taxon:10116"
                   74.4%;
92.6%;
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                                                                                                                                                                                                                                                       lib="Rat Lambda Zap 4 h light-exposed retina
Score 23.8; D
Pred. No. 24;
0; Mismatches
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Pred. No. 23;
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AJ647149
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unpublished (1998)
Contact: Lee, NH
The Institute for Genomic Research
9712, Medical Center Drive, Rockvill
Tel: (301)-838-3529
Fax: (301)-838-0208
Email: nhlee@tigr.org
                                                                                                                                                                                                                                                                                                                                                73
                                                                                                                                                                                     AJ647149
AJ647149.1
BST.
             Anderson, S.I., Finlayson, H.A. and Archibald, A.L. Development of cDNA and EST resources for studying reproduction and embryo development in pigs and cattle Unpublished (2004)

Contact: Anderson SI
                                                                                                              Sus scrofa
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Suina; Suidae;
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EST200186 Normalized rat embryo,
REMAM79 3' end, mRNA sequence.
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Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
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AA944687.1 GI:3104603
EST.
Genomics and Bioinformatics
                                                                                                                                                                    Sus scrofa (pig)
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Lee, N.H., Glodek, A., Chandra, I., Mason, T.M.,
Kerlavage, A.R. and Adams, M.D.
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                                                                                         (bases 1 to 498)
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                                                                                                                                                                                                                                                   CSEQRAN19 Sus scrofa cDNA
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/clone_lib="Normalized rat embryo, Bento Soares"
/note="Vector: pT7T3Pac; Site_1: EcoRI; Site_2: i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Rattus sp."
/mol_type="mRNA"
/db_xref="mTCC (inhost):2014151"
/db_xref="taxon:10118"
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Roslin, Midlothian, EH25 9PS, UNITED KINGDOM
Roslin, Midlothian, EH25 9PS, UNITED KINGDOM
Single pass sequencing. Bases called and trimmed with phred
v0.020425.c. Vector identified by cross match with the -minscore 20
vn0.020425.c. Vector identified by cross match with the -minscore 20
vn0.04025.c. Vector identified by cross match with the -minscore 20
vn0.040425.c. Vector identified by cross match in Exception in the control of the co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Roslin Institute
Roslin, Midlothian, EH25 9PS, UNITED KINGDOM
Single pass sequencing. Bases called and trimmed with phred
90.020425.c. Vector identified by cross match with the -minscore 20
and -minmatch 12 options. Vector:pblueScriptII(KS) R. Sitel: EcoRI
R. Sitel: NotI 5' Seq Primer M13F Normalised library constructed
from pooled ovaries. Clones available from UK Centre for Functional
Genomics in Farm Animals, Roslin Institite, Roslin, Midlothian, UK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Anderson, S.I., Finlayson, H.A. and Archibald, A.L.
Development of CDMA and EST resources for studying reproduction and embryo development in pigs and cattle
Unpublished (2004)
Contact: Anderson SI
Genomics and Bioinformatics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AJ650336 CSEQRAN19 Sus scrofa
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Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Suina; Suidae;
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25; Conservative
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/mol type="maNA"
/mol type="maNA"
/db_xref="taxon:9823"
/clone="C0003104 N19"
/tissue_type="ovary"
/clone_Tib="CSEQRAN19"
/clone_Tib="CSEQRAN19"
/note="Vector: pBlueScript11(KS+); Site_1: EcoRI; Site_2:
NotI; Single pass sequencing; Normalised library
constructed from pooled ovaries"
                                                              /organism="Sus scrofa"

mol type="mRNA"

/mol type="mRNA"

/db xref="taxon:9823"

/clone="C0003275_B08"

/tissue type="ovary"

/clone Tib="CSEQRAN19"

/clone Tib="CSEQRAN19"

/note="Vector: pBlueScript11(KS+); Site 1: EcoRI; Site 2:

NotI; Single pass sequencing; Normalised library
                                     constructed from pooled ovaries"
                                                                                                                                                                                                                                                                                                                                                                                                                              www.ark-genomics.org.
Location/Qualifiers
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Pred. No. 24;
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           6 AATAAGGTGCCTGCGGTGCCAGAAACC 32
AAAAAGGTTCCTGCGGTGCCAGAAACC
                                   Conservative
                                           74.48;
                                  0; Mismatches
                                           Score 23.8;
Pred. No. 24;
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Perfect score:
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                              Probes for detection of Human Papillomavirus Type 16 and Type 18 - can distinguish between Type 16 and 18, associated with genital cancers.
                                                                   Gordon P,
                                                                                                  15-NOV-1995;
                                                                                                                15-NOV-1996;
                                                                                                                               21-MAY-1997
                                                                                                                                                            Human papillomavirus
                                                                                                                                                                           cervical smear;
                                                                                                                                                                                 Human Papillomavirus; probe; target region; genital cancer;
                                                                                                                                                                                                Human Papillomavirus Type 16 target region.
                                                                                                                                                                                                                09-FEB-1998
                                                                                                                                                                                                                                             AAT72382 standard; DNA; 21 BP.
                                                     WPI; 1997-274349/25.
                                                                                  (GENP-) GEN-PROBE INC.
                                                                   Brentano ST,
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Adp10589 Reference
Ade96111 Human uri
Adk15020 Urinary s
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Adm87151 Human prod
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Ab189741 Human pol
Abk71649 Human dit
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Ady72223 Human BMY
Adc86548 Human GPC
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Novel hybridisation assay probes have been developed comprising an

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Best Local S
Matches 21
Novel hybridisation assay probes have been developed comprising an oligonuclectide which will hybridise under selected conditions to Human papillomavirus (HPV) Type 16 and/or 18 (but not Types 6, 11, 31, 33, 35, 39, 45, 51, 52, or 58) target nucleic acids to form detectable target: probe duplex. The present sequence represents a specifically claimed target region. Oligonuclectides are useful to detect HPV Type 16 and/or 18 in samples e.g. cervical smears, body fluid, and distinguish these from other HPV variance. Papillomaviruses are small DNA viruses and HPV Types 16 and 18 are associated with genital cancers. HPV PCR primers can amplify HPV Type 16 and/or 18 nucleic acid in a sample. HPV Type 16 and/or 18 nucleic acid in a sample. HPV Type 16
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                                                                                                                                                                                                                                                                                                                                                                                      Claim 8; Page 52; 70pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       distinguish between Type 16 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Probes for detection of Human
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DF Human Papillomavirus Type
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Human Papillomavirus; prol
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Cervical smear; ss.
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(GENP-) GEN-PROBE INC.
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PT GORDON P, Brentano ST,
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PT Probes for detection of H
PT distinguish between Type
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PT Probes for detection assay
CC Claim 8; Page 53; 70pp; E
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PT Probes for detection assay
CC Oligonuclectide which will
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CC 18 in samples e.g. cervic
CC 18 in samples e.g. cervic
CC 18 in samples e.g. cervic
CC amplify HPV Type 16 and/c
                                                                 Novel hybridisation assay probes have been developed comprising an coligonuclectide which will hybridise under selected conditions to Human Papillomavirus (HPV) Type 16 and/or 18 (but not Types 6, 11, 31, 33, 35, 39, 45, 51, 52, or 58) target nucleic acids to form detectable target: probe duplex. The present sequence represents a specifically claimed target region. Oligonucleotides are useful to detect HPV Type 16 and/or 18 in samples e.g. cervical smears, body fluid, and distinguish these from other HPV variants. Papillomaviruses are small DNA viruses and HPV Types 16 and 18 are associated with genital cancers. HPV PCR primers can amplify HPV Type 16 and/or 18 mucleic acid in a sample. HPV Type 16 and/or 18 can be detected by adding a probe and detecting probe:target duplex formation, target nucleic acid is optionally amplified. Type 16 or 18 can be specifically detected by amplifying nucleic acids with at least one specifically claimed PCR primer. For Type 18 detection, a helper probe may be used. Oligonucleotides can distinguish target sequences from phylogenetically close HPV Types 16 and 18 whilst available detection sera react with antigens of all papillomaviruses
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                                                                                                                                    Pred.
                                                                                                                                                                     Score 21;
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                                                         21
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                                                                                                                  Mismatches
                                                                                                                                                Z
O
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                                                                                                                                                                     DB 2;
                                                                                                                  0
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                                                                                                                                                                  Length 21;
                                                                                                                  Indels
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                                                                                                                  0;
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AAN93015 standard;

DNA;

24

BP

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RESULT 6
AAN91584
ID AAN9
XX AAN9
AC AAN9
AC AAN9
XX 27-A
DT 17-J
XX Prob
DE Prob
DE Situ
XX Huma
KW Huma
KW Ceil
XX Ceil
XX WO89
PD WO89
XX O6-1
XX Y
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Best Local S
Matches 21
                                                                                                                                                                                                                                                                                                                                                                                                                                     27-AUG-2003
17-JUL-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAN91584 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The probe is complemetary to Human Papillomavirus bases 420-444 in gene E6 of HPV type 16. See also (Updated on 31-OCT-2002 to add missing OS field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    31-OCT-2002
13-FEB-1990
                          02-OCT-1987;
                                                                                                                                                                                                                         Human papillomavirus
                                                                                                                                                                                                                                                                           Human papilloma virus; type 16; in situ hybridisation assay; cellular smear; probe 6; benign wart; cervical cancer.
                                                                                                                                                                                                                                                                                                                                                          Probe 6 for the detection of human papilloma virus (HPV) type situ hybridisation assay.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAN91584;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 24 BP; 5 A; 6 C; 6 G; 7 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Page 22; 28pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1989-192703/26.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09-DEC-1987;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              06-DEC-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-JUN-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO8905357-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Probe for detecting human papillomavirus.
                                                                          30-SEP-1988;
                                                                                                                               06-APR-1989
                                                                                                                                                                              WO8902934-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (MICR-) MICROPROBE CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   exclusion agents for enhancing in situ hybridisation - determn. of poly-nucleotide targets in cells by fixing t transparent solid support and hybridising, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  papillomavirus; polynucleotide probe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGGACACAGTGGCTTTTGAC 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                  (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87US-00130709
                          87US-00103979
                                                                            88WO-US003367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              88WO-US004355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.01;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 21; 100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ₽₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 1; Length 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u>,,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (HPV) mRNA. It detects AAN93011-N93031.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                used for
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RESULT 7
AAV39991
ID AAV3
XX AAV3
AC AAV3
XX B6 C
XX Huma
COS Syntt
XX HUMB
COS Syntt
XX WO98
XX HUB
PN WO98
XX WO98
PT CAI'
XX WPI
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XX DEX
XX BXA
XX CC A m
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Best Local S
Matches 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The patent is for a rapid in situ hybridisation assay for detecting and typing human papilloma virus (HPV) in non-frozen cellular smears fixed to a support in absence of aldehyde-based crosslinking reagents. The assay comprises: (1) combining nucleic acid in the sample with at least one detectable probe able to hybridise with 1 or more HPV types; and (2) detecting presence or absence of hybrid complexes. Opt. several probes are used, eg one for HPV types 6 and 11, associated with benign warts, and one for types 16, 18, 31, 33 and 35, associated with cervical cancer. The assay can differentiate between HPV types. It is esp. used as a secondary test. The probes can be synthesised or cloned. (Updated on 27-AUG-2003 to correct OS field.)
                                                                        Detecting target nucleic acid by hybridisation with probe that generates looped-out region - then using second probe, hybridised to this region, to initiate nucleic acid synthesis, for disease diagnosis, detecting
                                                                                                                                                                                                                                                                                                                                                                                                                                 E6 oncogene from HPV 16 target sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     with long labelled probe s examining cervical smears.
                                                                                                                                  WPI; 1998-362792/31.
                                                                                                                                                                Cardy DLN;
                                                                                                                                                                                                                         16-DEC-1996;
                                                                                                                                                                                                                                                      16-DEC-1997;
                                                                                                                                                                                                                                                                                   25-JUN-1998
                                                                                                                                                                                                                                                                                                                WO9827225-A1
                                                                                                                                                                                                                                                                                                                                            Synthetic.
                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                    Human papillomavirus; target; probe; detection; hybridisation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                08-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAV39991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAV39991 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 24 BP; 5 A; 6 C; 6 G; 7 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 19; 39pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hybridisation test
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1989-114406/15.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Schwartz DE,
                                                                                                                                                                                             (CYTO-) CYTOCELL LTD
                                                                                                                                                                                                                                                                                                                                                                                      looped nucleic acid; diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (MICR-) MICROPROBE CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Adams
                                                                                                                                                                                                                         96GB-00026074.
                                                                                                                                                                                                                                                      97WO-GB003449.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for human papilloma virus in cell smears - probe specific for particular virus types,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₽₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24
                                                                                                                                                                                                                                                                                                                                                                                       pathogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1; Length 24;
                                                                                                                                                                                                                                                                                                                                                                                         88.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      by reaction esp. for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
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A method has been developed for detecting

a target nucleic

acid in

Example 4; Page 19; 48pp; English.

pathogens

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RESULT 8
ABQ73533
ID 73533
ID 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
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Best Local S
Matches 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sample by: (a) hybridising the target with a first probe (P1) having 3' and 5' portions complementary to adjacent regions of the target, with an intervening, non-complementary portion so that the resulting hybridisation complementary portion so that the resulting hybridisation complementary portion so that the resulting contiguous regions of P1 are brought close together; (b) hybridising second probe (P2) to these non-contiguous regions; (c) initiating nucleic acid synthesis, dependent on hybridisation of P2 to P1, and (d) detecting newly formed nucleic acid. In a modification, the looped-out region is formed from the target rather than P1, and then P2 hybridises to non-contiguous regions of the target. The present sequence represents a target sequence used in an example from the present invention. The method is used for diagnosis of infectious disease or chromosomal abnormalities; for detecting Salmonella in foods or Escherichia coll in water. The
                                                                                                                                                                                                                                                                                                                                                                                                                                     08-JAN-2001; 2001US-00756095.

08-JAN-2001; 2001US-00756096.

08-JAN-2001; 2001US-00756097.

20-APR-2001; 2001US-00838858.

29-AUG-2001; 2001US-00941492.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pre-trans-splicing molecule; PTM; spliceosome; cytostatic; gene therapy; immunosuppressive; antinicrobial; gene regulation; gene repair; cancer; targeted cell death; genetic disorder; infectious disorder; autoimmune disease; proliferative disorder; PCR primer; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABQ73533 standard; DNA; 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     method does not require making copies of the target or long tracts of sequence; is applicable to DNA or RNA (including those without discrete ends); involves at least 2 hybridisation events to generate a signal (for improved specificity) and the hybridised probe may be detected without
                                                                                     Novel cell having pre-trans-splicing molecules with target binding domains that target binding of PTM to pre-mRNA, 3' or 5' splice regio spacer region, nucleotide sequence to be trans-spliced to target-pre-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-JAN-2002; 2002WO-US000416.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200253581-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HPV-PTM related oligonucleotide #5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 100 BP; 20 A; 25 C; 18 G;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11-JUL-2002
                                                                                                                                                                                                                      WPI; 2002-566693/60.
                                                                                                                                                                                                                                                                                    Mansfield
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21;
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                                                                                                                                                                                                                                                                 'SS'
FT'
                                                                                                                                                                                                                                                                                                                                                                             INTRONN INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                 Garcia-Blanco
Chao H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                  Baker CC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            37 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 2; Length 100
                                                                                                                                                                                                                                                                                                                  Puttaraju
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                         splice region,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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Example; Fig 54; 229pp; English

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RESULT 9
ABQ73531
ID ABQ77
XX ABQ77
XX ABQ77
XX ABQ77
XX BPV-
XX Pre-
XX Pre-
XX Immu
KW targ
KW targ
KW targ
XX Huma
OS Huma

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              문
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        immunosuppressive and antimicrobial activities, and can be used in gene therapy. (II) comprising one or more (preferably two or more) (IIa) and (IIb) (or (IIci), (IId) and (IIe), or (II) comprising either (A) or (B) (excluding (IId)), is useful for producing a chimeric RNA molecule in a cell which involves contacting a target pre-mRNA expressed in the cell with (II) that is recognised by nuclear splicing components. The chimeric RNA produced comprises sequences encoding a toxin or translatable protein. The nucleotide sequences to be trans-spliced to target pre-mRNA preferably comprises nucleotide sequences comprising exons 1-10 of cystic fibrosis trans-membrane conductance regulator (CFTR). The chimeric RNA molecule produced using (II) which either comprises (A) or (B) further
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention describes a cell (I) comprising pre-trans-splicing molecules (PTMs) (II) which have one or more target binding domains (IIa) that target binding of PTM to pre-mRNA, 3' splice region (IIb) that includes branch point pyrimidine tract and 3'splice acceptor site, or 5's splice site (IIc), spacer region (IId) that separates RNA splice site from target binding domain, and nucleotide sequence to (IIe) be transspliced to target-pre-mRNA. Optionally, the cell comprises (II) either comprising: (A) (IIb) and (IIe), or (B) (IIc), (IId) and (IIe). The cell may comprise a recombinant vector expressing (II).
                                                                                                                                                            08-JAN-2001; 2001US-00756095.

08-JAN-2001; 2001US-00756096.

08-JAN-2001; 2001US-00756097.

20-APR-2001; 2001US-00838858.

29-AUG-2001; 2001US-00941492.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human papillomavirus. Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         comprises a nucleotide sequence tag. (I) can be used for gene regulation, gene repair and targeted cell death. (I) can be used for the treatment of various diseases including genetic, infectious or autoimmune diseases and proliferative disorders such as cancer and to regulate gene expression in plants. AB073414 to AB073536 represent sequences used in the exemplification of the present invention
Mitchell LG,
Mansfield GS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pre-trans-splicing molecule; PTM; spliceosome; cytostatic; gene therapy; immunosuppressive; antimicrobial; gene regulation; gene repair; cancer; targeted cell death; genetic disorder; infectious disorder; autoimmune disease; proliferative disorder; PCR primer; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 138 BP; 45
                                                                                                                                                                                                                                                                                                                                                                  08-JAN-2002; 2002WO-US000416.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200253581-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HPV-PTM related oligonucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABQ73531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABQ73531 standard; DNA; 193
                                                                                                    (INTR-) INTRONN INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
   Garcia-Blanco
Chao H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; 32 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽₽
                                  ¥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 21; DB 6; Length 138; Pred. No. 1.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        #3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                      Baker CC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           39 T; 0 U; 0 Other;
                                      Puttaraju
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
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WPI; 2002-566693/60.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RNA produced comprises sequences encoding a toxin or translatable protein. The nucleotide sequence to be trans-spliced to target pre-mRNA preferably comprises nucleotide sequences comprising exons 1-10 of cystic fibrosis trans-membrane conductance regulator (CFTR). The chimeric RNA molecule produced using (II) which either comprises (A) or (B) further comprises a nucleotide sequence tag. (I) can be used for gene regulation, gene repair and targeted cell death. (I) can be used for the treatment of various diseases including genetic, infectious or autoimmune diseases and proliferative disorders such as cancer and to regulate gene expression in plants. ABQ73414 to ABQ73536 represent sequences used in the exemplification of the present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADX26909 standard; DNA; 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel cell having pre-trans-splicing molecules with target binding domains that target binding of PTM to pre-mRNA, 3' or 5' splice region, domains that target binding of PTM to pre-mRNA, 3' or 5' splice region, and target-pre-main region, nucleotide sequence to be trans-spliced to target-pre-main region.
    JP2005046117-A.
                                                                            misc_difference
                                                                                                                                                                                                        Human papillomavirus type Synthetic.
                                                                                                                                                                                                                                                                   cancer; neoplasm;
                                                                                                                                                                                                                                                                                       cell culture;
                                                                                                                                                                                                                                                                                                                             Human papillomavirus type 16 E6 delta151 mutant DNA.
                                                                                                                                                                                                                                                                                                                                                                        05-MAY-2005
                                                                                                                                                                                                                                                                                                                                                                                                                ADX26909;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example; Fig 53; 229pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    spacer region, nucleotide
mRNA.
                                                                                                                                        misc_difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 193 BP; 46 A; 32 C; 22 G; 40 T; 0 U; 53 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGGACACAGTGGCTTTTGAC 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                   immortalization; Gynecology and obstetrics; Andrology;
asm; mutant; ds.
                                                                                                                                            Location/Qualifiers 3..4
                                                                              449. .450
                                                                            /*tag= a
/note= "Wild-type bases 4-25 have been removed"
                                      note= "Wild-type bases 472-474 have been removed"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 21; 100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₽₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 6; Length 193;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
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RESULT 11
ABQ76223/c
ID ABQ762
XX ABQ762
XX ABQ762
XX Tumour
XX Tumour
XX Tumour
XX Cancer
XX Human
XX I Tumour
XX Cancer
XX I Tumour
XX I Tumour
XX Cancer
XX I Tumour

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to a novel immortalized endometrial glandular epithelial cell strain in which an exogenous immortalizing gene is introduced and the properties of the cell line as non-cancer typical glandular epithelial cells, are maintained. The cell line of the invention may be useful for research of reproduction, particularly for analyzing the adhesion of the fertilized egg during implantation, analyzing the effect of steroid hormones, analyzing the mechanism of multistep canceration of the inner glandular epithelial membrane by genetic engineering of the cell line which is otherwise non-cancerous, and analyzing the effect of carcinogenic substances on the cell line. The cell line maintains the properties of normal somatic cells and the properties of endometrial glandular epithelial cells. The current sequence is that of the Human papillomavirus type 16 E6 delta151 mutant
                                                                                                                                                                                                                                                                                                                                                               US6287569-B1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human papillomavirus E6 tumour antigen derived DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 452 BP; 156 A; 70 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Immortalized endometrial glandular epithelial cell strain containing exogenous immortalizing gene and maintains properties of non-cancer cell and typical glandular epithelial cells, useful in field of research of
                                                                                                                                                                                   10-APR-1997;
                                                                                                                                                                                                                                           06-APR-1998;
                                                                                                                                                                                                                                                                                                          11-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                     Human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cancer; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tumour antigen; human; vaccine; cellular immune response; immunogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABQ76223;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABQ76223 standard; DNA; 456 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       reproduction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31-JUL-2003; 2003JP-00283911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       31-JUL-2003; 2003JP-00283911.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24-FEB-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (UYKA-) UNIV KANAZAWA TLO YG. (KOKU-) KOKURITSU GAN CENT SOCHO.
                                                                                                                       (REGC ) UNIV CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      336 CAGGACACAGTGGCTTTTGAC 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 4; 22pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
ilarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                   97US-0043467P
                                                                                                                                                                                                                                           98US-00056105.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 21; DB
Pred. No. 1.7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98 G; 128 T; 0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14; Length 452;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0 Other,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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0

Kipps TJ,

1998-583198/49

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RESULT 12
ADC37149/c
ID ADC37149;
XX
AC ADC37149;
XY
T18-DEC-2003 (first entry)
XX
AC ADC37149;
XX

AC ADC37149;
XX

INMOVIAL Subgenomic from the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
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Best Local
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                                                                                                                             Producing an immortalized non-tumorigenic human Schwann or schwannoma cell line for treating cancer or neurodegenerative disorder comprises selecting for immortalized cells that express the exogenous immortali
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                immortalised non-tumourigenic; human Schwann; schwannoma cell line; screening cancer chemotherapeutic; antineoplastic activity; carcinogenicity; neuroprotective; neurodegeneration; SV40; Simian Virus 40; adenovirus; human papilloma virus; E6; E7; cytostatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Col 91-92; 61pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAR-2002; 2002US-0361528P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-MAR-2003; 2003WO-US006314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      therapy; cancer; HPV16; ds.
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       101 G; 129
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immortalizing
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English

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RESULT 13
ADI71963/c
ID ADI71963 standard; DNA; 464 BE
XX
AC ADI71963;
XX
DT 20-MAY-2004 (first entry)
XX
DT 20-MAY-2004 (first entry)
XX
DE Human ovarian cancer DNA marke
XX
DE Human; ovarian cancer; ds; tun
XX
CS Homo sapiens.
XX
PN WO200170979-A2.
XX
PN WO200170979-A2.
XX
PD 27-SEP-2001.
XX
PD 27-SEP-2001.
XX
PD 21-MAR-2000; 2000US-0191031P.
PR 25-MAY-2000; 2000US-0211940P.
PR 15-JUN-2000; 2000US-0211940P.
PR 15-JUN-2000; 2000US-021682PP.
PR 21-DEC-2000; 2000US-0257672P.
XX
PA (MILL-) MILLENNIUM PREDICTIVE
XX
DR WPI; 2001-611502/70.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cc activity of an agent; treating neurodegeneration in a patient; and a kit (for screening a pharmacological agent on schwannomas cells. In the method (cc) of producing an immortalised non-tumourigenic human Schwann or schwannoma (cc) consisting of sV40 (Simian Virus 40), adenovirus and human papilloma (cc) consisting of sV40 (Simian Virus 40), adenovirus and human papilloma (cc) consisting of types 18, 31, 33 or 35, but preferably 16. The immortalised (cc) consisting of types 18, 31, 33 or 35, but preferably 16. The immortalised (cc) constrained chuman Schwann or schwannoma cell line has cytostatic and (cc) neuroprotective activity and be useful in treating disorders by gene (cc) therapy. The method is useful for producing an immortalised non-tumourigenic human Schwann or schwannoma cell line useful for screening (c) cancer chemotherapeutic and antineoplastic activity of an agent, testing (c) carcinogenicity of an agent and screening a neuroprotective activity of (c) can agent and for preparing a composition for diagnosing or treating (c) neurodegenerative disorders and cancer. This polynucleotide represents (c) by south of a 459bp HFV16 sequence, a subgenomic fragment used in the production of the immortalised non-tumourigenic human Schwann or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
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                                                                                                                                                                                               21-MAR-2000; 2000US-0191031P.
25-MAY-2000; 2000US-0217124P.
15-JUN-2000; 2000US-0211940P.
07-JUL-2000; 2000US-0216820P.
25-JUL-2000; 2000US-0220661P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tumourigenic human Schwann or schwannoma cell line comprising: providing a cell culture of human Schwann or schwannoma cells, introducing a polynucleotide comprising an exogenous immortalising gene into the cells, and selecting for immortalised cells that express the exogenous immortalising gene and retain phenotypic properties of Schwann or schwannoma cells. The invention further comprises: determining the effect of a pharmacological agent on human Schwann or schwannoma cells;
                                                                                                                                                                                                                                                                                                                                                21-MAR-2001; 2001WO-US009126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human ovarian cancer DNA marker #4705.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             screening cancer chemotherapeutic and antineoplastic activity of an agent; testing carcinogenicity of an agent; screening the neuroprotective
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to a the production of an immortalised non-tumourigenic human Schwann or schwannoma cell line comprising: pro-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          schwannoma cell line of the invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cancer; ds; tumour; cytostatic; DNA marker.
                                                                                                                                PREDICTIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 21; DB
100.0%; Pred. No. 1.7;
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                                                                                                                                MEDICINE INC
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RESULT 14
ADL37114/c
ID ADL37114 standard; D:
XX
AC ADL37114;
XX
DT 20-MAY-2004 (first |
XX
DT 20-MAY-2004 (first |
XX
Human ovarian cancer
XX
Human; ovarian cancer
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Human; ovarian cance
XX
PM Human; ovarian cance
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PM Human; ovarian cance
XX
1000 sapiens.
XX
PM W0200170979-A2.
XX
PM W0200170979-A2.
XX
PM 21-MAR-2001; 2001WO-1
XX
21-MAR-2000; 2000US-1
PR 21-MAR-2000; 2000US-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to nucleic acid markers which are overexpressed in ovarian cancer cells as compared to their expression in normal (i.e. non-cancerous) ovarian cells. The invention also relates to polypeptides encoded by the markers, antibodies that selectively bind to the polypeptides, a method of inhibiting ovarian cancer in a patient at risk of developing ovarian cancer involving inhibiting expression of a gene corresponding to a marker of the invention and a method of treating a patient afflicted with ovarian cancer comprising providing to cells of the patient an antisense oligonucleotide complementary to a marker of the invention. The markers are useful for assessing if a patient is afflicted with ovarian cancer, which involves comparing the level of expression of a marker in a patient sample and a normal level of expression of the marker in a control non-ovarian cancer makels of expression of the marker in a control non-ovarian cancer makels of expression of the marker in a control non-ovarian cancer makels of expression of the marker in a control non-ovarian cancer makels of expression of the marker in a control non-ovarian cancer makels. A difference between the
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        21-MAR-2000; 2000US-0191031P
25-MAY-2000; 2000US-0207124P
                                                                                                                                                                                                                                                                                                                Human; ovarian cancer; ds; tumour; cytostatic; DNA marker
                                                                                                                                                                                                                                                                                                                                                                    Human ovarian cancer DNA marker #11004.
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                                                                                       21-MAR-2001; 2001WO-US009126.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     88
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Pred. No.
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1.7;
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The invention relates to nucleic acid markers which are overexpressed in covarian cancer cells as compared to their expression in normal (i.e. non-cer cancerous) ovarian cells. The invention also relates to polypeptides encoded by the markers, antibodies that selectively bind to the corpsponding to the markers, antibodies that selectively bind to the corpsponding to a marker of the invention and a method of inhibiting ovarian cancer in a patient at risk confeveloping ovarian cancer involving inhibiting expression of a gene corresponding to a marker of the invention and a method of treating a patient afflicted with ovarian cancer comprising providing to cells of the patient afflicted with ovarian cancer comprising providing to cells of corresponding to a marker of the invention. The markers are useful for assessing if a patient is afflicted with ovarian cancer sample. A difference between the compression levels indicates ovarian cancer. The level of expression of the marker in a control non-ovarian cancer sample. A difference between the comparent corresponds to a secreted protein or to a transcribed marker is assessed by detecting the presence in the sample, a protein or protein o
Sequence 464 BP; 139 A; 106 C; 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel isolated nucleic acid molecules (markers) overexpressed in ovarian cancer cells as compared to their normal non-cancerous ovarian cells are used to characterize stage, grade, histological type of ovarian cancer.
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07-JUL-2000; 2000US-0216820P.
25-JUL-2000; 2000US-0220661P.
21-DEC-2000; 2000US-0257672P.
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     G; 100 T; 0
        U; 2 Other;
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ADF09607/
ID ADF0
XX
AC ADF0
DT 12-E
XX
DB Huma
XX
KW huma
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XX
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                                                                                                                                                    Matches
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                              Human papillomavirus 16 E6
                                                               ADF09607
                                                                               ADF09607 standard; cDNA;
                                                                                                                                                            Local
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                                                                                                                              1 CAGGACACAGTGGCTTTTGAC
                                                                                                                                                            Similarity
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                                               (first
                                               entry)
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Pred. No. 1.7;
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human; protein-protein interaction; virucide; cytostatic; vaccine; human papilloma virus; HPV; cancer; ss; gene.

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RRSULT 16
AAL54430/c
ID: AAL544
XX AAL544
XX O3-APR
XX Viruci
KW Viruci
KW select
KW human
XX malign
XX malign
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Best Local S
Matches 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to a novel purified complex comprising a first polypeptide and a second polypeptide, where the polypeptides comprise defined amino acid sequences listed in the specification, and where the first polypeptide binds to the second polypeptide. A complex of the invention has virucide and cytostatic activity, and may have a use as a vaccine. The complex is useful for identifying agents for treating or preventing a conditions involving altered level of the complex, e.g. human papilloma virus (HPV) infection, or cancer. The compositions, antibodies, vectors and methods are useful for treating such diseases. The sequences shown in ADF09584-ADF09697 represent cDNA's of the
                                                                                                                                                                                                                                                                                                          Virucide; cytostatic; anti-HIV; dermatological; small interfering RNA; selective post-translational silencing; siRNA; oncogene; genital wart; human papilloma virus; HPV gene; cancer; human cervical cancer; HIV; smallpox; flu; common cold; cervical cancer; penile cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New purified complex comprising a first polypeptide and a second polypeptide, useful for identifying agents for treating/preventing a condition involving altered level of the complex e.g. human papilloma virus infection, or cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        E6 siRNA sequence.
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     17-JUL-2001; 2001GB-00017358
                                                           17-JUL-2002; 2002WO-GB003300.
                                                                                                                                                                           WO2003008573-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 03-APR-2003
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 3; SEQ ID NO 108; 156pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14-FEB-2002; 2002US-0356911P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14-FEB-2003; 2003WO-US004594.
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                                                                                                                                                                                                                           Human papilloma virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Jackson A,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
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                                                                                                                                                                                                                                                                                squamous cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ooi CE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
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                                                                                                                                                                                                                                                                                      carcinoma;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 21; DB
Pred. No. 1.7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       103 G; 131
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                                                                                                                                                                                                                                                                                   al cancer; penile cancer;
verruca vulgaris; gene t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       T; 0
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RESULT 17
AAL54445/c
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AC AAL544
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to a novel method for selective post-translational CC silencing in a mammalian cell of the expression of an exogenous gene of cviral origin. The method comprises introducing into the cell a small CC interfering RNA (siRNA) construct that is homologous to a part of the RNA sequence of the gene. The method is useful for the selective post-cc transcriptional silencing of an exogenous gene of viral origin (e.g. an CC concepte or human papilloms virus (HPV) gene) in a mammalian cell. The CC method or the siRNA is particularly useful for treating cancer, human ccervical cancer, human immunodeficiency virus (HIV), smallpox, flu, CC common cold, or a disease caused by a HPV (e.g. genital warte, cervical CC vulgaris). An siRNA construct or vector is useful for use as a medicament CC for the diseases mentioned. The polynucleotide sequence of the invention CC can be used to treat disorders by gene therapy. This polynucleotide content on the invention CC can be used to treat disorders by gene therapy. This polynucleotide sequence of the invention CC can be used to treat disorders by gene therapy. This polynucleotide sequence of the invention CC can be used to treat disorders by gene therapy.
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Virucide; cytostatic; anti-HIV; dermatological; small interfering RN selective post-translational silencing; siRNA; oncogene; genital war human papilloma virus; HPV gene; cancer; human cervical cancer; HIV; smallpox; flu; common cold; cervical cancer; penile cancer;
                                                                                                17-JUL-2001; 2001GB-00017358
14-JAN-2002; 2002GB-00000688
17-JUN-2002; 2002GB-00013855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HPV16 B6 siRNA derived DNA sequence.
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                                                                                                                                                                                                                                       17-JUL-2002; 2002WO-GB003300.
                                                                                                                                                                                                                                                                                                                                                                                                                                               Human papilloma virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               malignant squamous cell carcinoma; verruca vulgaris;
                                                                                                                                                                                                                                                                                                                                                                           WO2003008573-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2003-221850/21
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17-JUN-2002; 2002GB-00013855.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              358
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(MILN/) MILNER · A

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TX RX FFF F X RX COCCOCCOCCOCCOCCC
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ADX26908/c
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Best Local S
Matches 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to a novel method for selective post-translational considerable in a mammalian cell of the expression of an exogenous gene of viral origin. The method comprises introducing into the cell a small interfering RNA (sirNA) construct that is homologous to a part of the mRNA sequence of the gene. The method is useful for the selective post-creative introducing of an exogenous gene of viral origin (e.g. an oncogene or human papilloma virus (HPV) gene) in a mammalian cell. The method or the sirNA is particularly useful for treating cancer, human cervical cancer, human immunodeficiency virus (HIV), smallpox, flu, common cold, or a disease caused by a HPV (e.g. genital warts, cervical cancer, penile cancer, malignant squamous cell carcinomas or verruca vulgaris). An sirNA construct or vector is useful for use as a medicament for the disease smantoned. The polymucleotide sequence of the invention can be used to treat disorders by gene therapy. This polymucleotide sequence of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Selective post-transcriptional silencing of an exogenous viral gene (e.g human papilloma virus (HPV) E6), for treating e.g. cancer, comprises using a small interfering RNA (siRNA) construct homologous to an mRNA of
                                        Immortalized endometrial glandular epithelial cell strain containing exogenous immortalizing gene and maintains properties of non-cancer and typical glandular epithelial cells, useful in field of research reproduction.
                                                                                                                                                                                                   31-JUL-2003; 2003JP-00283911
                                                                                                                                                                                                                                 31-JUL-2003; 2003JP-00283911
                                                                                                                                                                                                                                                                                               JP2005046117-A.
                                                                                                                                                                                                                                                                                                                              Human
                                                                                                                                                                                                                                                                                                                                                           cancer; neoplasm;
                                                                                                                                                                                                                                                                                                                                                                            cell culture;
                                                                                                                                                                                                                                                                                                                                                                                                       Human papillomavirus type 16 E6 wild-type gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADX26908 standard; DNA; 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Milner AJ;
                                                                                                                        WPI; 2005-175815/19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21,
                                                                                                                                                                                                                                                                                                                            papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CAGGACACAGTGGCTTTTGAC
                                                                                                                                                  UNIV KANAZAWA TLO YG.
KOKURITSU GAN CENT SOCHO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                        (first
                                                                                                                                                                                                                                                                                                                                                                            immortalization;
                                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          104 G; 131 T; 0 U; 0 Other;
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                                                                                                                                                                                                                                                                                                                                                                            Gynecology and obstetrics;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 10;
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                                                                                                                                                                                                                                                                                                                                                                            Andrology;
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of
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The invention relates to a novel immortalized endometrial glandular epithelial cell strain in which an exogenous immortalizing gene is introduced and the properties of the cell line as non-cancer typical glandular epithelial cells, are maintained. The cell line of the invention may be useful for research of reproduction, particularly for analyzing the adhesion of the fertilized egg during implantation, analyzing the effect of steroid hormones, analyzing the mechanism of multistep canceration of the inner glandular epithelial membrane by genetic engineering of the cell line which is otherwise non-cancerous, and analyzing the effect of carcinogenic substances on the cell line. To cell line maintains the properties of normal somatic cells and the properties of endometrial glandular epithelial cells. The current sequence is that of the Human papillomavirus type 16 E6 wild-type gene
invention.
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Query Match
Best Local :
                                 Matches
                                                                   Sequence 477
358
               1 CAGGACACAGTGGCTTTTGAC 21
                               21;
                                          Similarity
CAGGACACAGTGGCTTTTGAC 338
                                 Conservative
                                                                   BP; 167
                                         100.0%;
                                                                  A; 76 C;
                                0
                                         Score 21;
Pred. No.
                                                                   103 G;
                                 Mismatches
                                                                  131 T;
                                                   DB
                                                  14;
                                                                   0 U,
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                                                  Length 477;
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                                 Indels
                                 0,
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RESULT 19
ARASILIT 19
ARASILIT XX
ARASILIT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human papillomavirus type 16 E6/E7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    uterine cervix tumor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    squamous cell carcinoma; neoplasm;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     vulnerary; virucide;
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Human papillomavirus. gene

09-JUN-2005

25-NOV-2003; 2003GB-00027409 05-MAR-2004; 2004US-0549919P 25-NOV-2004; 2004WO-GB004979

(MILN/) MILNER AJ.

2005-405310/41.

Composition useful for delivering an agent into a agent, a transfer agent and a solid or colloidal agent into a cell comprises the or colloidal carrier medium.

Disclosure; SEQ ID NO 17; 56pp; English.

The present invention relates to a method and composition comprising a transfer agent and a solid or colloidal carrier medium for delivering biological agents into cells. The invention is useful for the treatment of cancer, tumor, carcinoma of cutaneous, squamous or cervical epithelia and colorectal carcinoma, wounds, burns and scars. The invention is also useful in gene therapy. The present sequence is the human papillomavirus type 16 E6/E7 gene fragment. This sequence is useful in a method for treating carcinomas.

Claim 4; SEQ

Ä

NO 3; 22pp; Japanese

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RESULT 20
AAT31834/c
ID AAT31834 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human papilloma virus; E6; E7; deletion mutant; humoral immune response; cellular immune respons
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human papilloma virus E6/E7
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11-JAN-1997
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(first entry)
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151. .153
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/transl_except= (
130. 132
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/transl_except=
133. .135
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/transl_except=
121. .123
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118. .120
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| 15. .117
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27. .129
transl_except=
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48. .150
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45. .147
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "B6/E7 fusion protein (deletion mutant)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein variant.
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se; vaccine;
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                                                     Matches
                                                                              Query Match
                                                                                                                            A variant of the human papilloma virus (HPV) E6 or E7 protein which elicits a humoral and/or cellular immune response against HPV can be used in vaccines against HPV or to treat HPV infection. The variant is preferably a deletion mutant comprising at least half, and preferably two-thirds of full length E6 or E7 protein starting from the N- or C-terminal, or is a full length E6 moiety fused to a full length E7 moiety. The variant optionally has a linkage moiety and a foreign protein or peptide which facilitates the purification of, and enhances the immunogenicity of, the fusion protein. This sequence encodes a fusion between the C-terminal end of E6 and the N-terminal end of E7. The protein is also a deletion mutant generated from the sequence described in AAT31833. (Updated on 27-AUG-2003 to correct OS field.)
                                                                                                                                                                                                                                                                                                                                    Vaccine variants of human papilloma virus antigens - contain variants of E6 and/or E7 protein, pref. deletion mutants, and are used to treat or prevent HPV infection.
                                                                                                      Sequence 519 BP; 175 A; 92 C; 113 G; 139 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                           Example 3; Page 17; 37pp; English.
                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1996-309518/31.
P-PSDB; AAR97562.
                                                                                                                                                                                                                                                                                                                                                                                                                                Edwards SJ,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20-DEC-1995;
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                                                                Local
172
                          \vdash
                                                   l Similarity
21; Conserv
               CAGGACACAGTGGCTTTTGAC 21
CAGGACACAGTGGCTTTTGAC
                                                     Conservative
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/transl_except= (

157. .159
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160. .162
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                                                   0;
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Pred.
 152
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                                                                              DB 2;
                                                     0
                                                                              Length 519
                                                      Indels
                                                     0,
                                                     Gaps
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RESULT 21
ADF31984/c
ID ADF31984 standard; DNA; 543 BE
XX
AC ADF31984;
XX
DT 12-FEB-2004 (first entry)
XX
DE Human papillomavirus fusion ge
XX
DE Human papillomavirus; cervix c
XX
CS Homo sapiens.
XX
FM Key
FT CDS 1..543
PT CDS 1..543
PT CDS 1..543
                                                                                             human papillomavirus; cervix cancer;
                                                                                                                           Human papillomavirus fusion gene encoding
                    Location/Qualifiers
                                                                                                                                                                                                                       ВP
                                                                                                                           sequence
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ARBSULT 22
ARA75470/G
ID ARA75
XX ARA75
XX ARA75
XX ARA75
XX ARA75
XX L6-OC
DT 16-OC
DT 28-JU
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XX Cervi
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Matches 21
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25-MAR-2003
28-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present invention relates to human papillomavirus B6/87 fusion gene, its preparing process, the process for configuring the efficient expression carrier containing the gene and resultant expression carrier, the fusion protein prepared from the gene, and the application of the fusion gene and expression protein to medical science and medicine to treat cervix cancer are disclosed. The present sequence represents the human papillomavirus fusion gene encoding sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus E6/E7 fusion gene carrier and fusion protein vaccine.
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P-PSDB; ADF31985.
                                                                                                                                                                                                                           HPV; HPV16; E6 cervix cancer;
                                                                                                                                                                                                                                                                                                                                                         470/c
AAQ75470 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 3; SEQ ID NO 1; 16pp; Chinese.
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              06-MAY-1993;
                                                                                  WO9426934-A2
                                                                                                                                                                                                                                                               HPV16 E6/E7
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                                   06-MAY-1994;
                                                                                                                                                                                                     Human
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                                                                                                                                                                                                                                                                                                                                                                                                                     358
                                                                                                                                                                                                  papillomavirus; strain 16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               21;
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                                                                                                                                                                                                                                                             encoding region.
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(revised)
(first en
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                                                                                                                                                                                                                           protein; E7 protein;
ds.
             9308-00058920
                                   94WO-US005085
                                                                                                       /*tag=
/label=
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/label= E6_encoding_region
481..570
                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                          DNA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Pr/
100.0%; Pr/
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                                                                                                      E7_encoding_region
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Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                    338
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                                                                                                                                                                                                                                       diagnosis; cervical dyplasia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and
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1.7;
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ADL43498/c

ADL43498 standard; DNA; 598 BP

XX

AC

ADL43498;

XX

AC

ADL43498;

XX

DT

20-MAY-2004 (first entry)

XX

DT

20-MAY-2004 (first entry)

XX

DT

20-MAY-2004 (first entry)

XX

Human ovarian cancer DNA marke

XX

Human; ovarian cancer; ds; tum

XX

MO200170979-A2.

XX

PM

27-SEP-2001, 2001WO-US009126.

XX

PD

27-SEP-2001, 2000US-02191931P.

PR

21-MAR-2000; 2000US-0211940P.

PR

15-JUH-2000; 2000US-0216820P.

PR

15-JUH-2000; 2000US-0226820P.

PR

21-DEC-2000; 2000US-022661P.

PR

21-DEC-2000; 2000US-0257672P.

XX

PA

(MILL-) MILLENNIUM PREDICTIVE

XX

PA

(MILL-) MILLENNIUM PREDICTIVE

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WPI; 2001-611502/70.

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Novel isolated nucleic acid multicancer cells as compared to till

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Used to characterize stage, 9:

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Disclosure; SEQ ID NO 17388;

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The invention relates to nucl-

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Covarian cancer cells as compa-

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Cancerous) ovarian cells. The
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Best Local S
Matches 21
                                                                                                                                                                                                                                                                                                                   21-MAR-2000; 2000US-0191031P.
25-MAY-2000; 2000US-0207124P.
15-JUN-2000; 2000US-0211940P.
07-JUL-2000; 2000US-0216820P.
25-JUL-2000; 2000US-0226661P.
21-DEC-2000; 2000US-0257672P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The sequences of the E6 and E7 polypeptide-encoding regions of human papillomavirus (HPV) 16 and 18 are given in AAQ75470-71 and the encoded proteins in AAR63865-66, respectively. Probes and primers based on these sequences were used for HPV infection diagnosis; expression of E6 and E7 is diagnostic for cervical cancer or pre- malignant states. (Updated on 25-MAR-2003 to correct PN field.) (Updated on 16-OCT-2003 to standardise
                                                                                                                   Novel isolated nucleic acid molecules (markers) overexpressed in ovarian cancer cells as compared to their normal non-cancerous ovarian cells are used to characterize stage, grade, histological type of ovarian cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human ovarian cancer DNA marker #17388.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 570 BP;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human papilloma virus detection assay - by amplification using self sustained sequence replication and hybridisation with a detector probe.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1995-006821/01.
P-PSDB; AAR63865.
                                                                                Disclosure; SEQ ID NO 17388; 106pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           199 A; 93 C;
                                                                                                                                                                                                                                                                                 PREDICTIVE
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Pred. No. 1.8;
0; Mismatches
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                                                                                                                                                                                                                                                                                 MEDICINE INC
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The invention relates to nucleic acid markers which are overexpressed ovarian cancer cells as compared to their expression in normal (i.e. r cancerous) ovarian cells. The invention also relates to polypeptides

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cc encoded by the markers, antibodies that selectively bind to the cc polypeptides, a method of inhibiting ovarian cancer in a patient at risk co f developing ovarian cancer involving inhibiting expression of a gene corresponding to a marker of the invention and a method of treating a content afflicted with ovarian cancer comprising providing to cells of the patient afflicted with ovarian cancer comprising providing to cells of the patient an antisense oligonucleotide complementary to a marker of the cinvention. The markers are useful for assessing if a patient is afflicted with ovarian cancer, which involves comparing the level of expression of the cancer amaker in a control non-ovarian cancer. The level of expression of the marker in a control non-ovarian cancer. The level of expression of a marker corresponds to a secreted protein or to a transcribed complement corresponding to the marker. The presence of protein or protein fragment is detected using an antibody that specifically binds with the component of the marker is assessed by detecting the presence of a transcribed complement corresponding to the marker. The presence of a transcribed compructeotide which anneals with the marker or anneals with a portion of the marker is assessed by detecting the presence of a transcribed of polynucleotide which anneals with the marker or anneals with a portion of the marker is assessed by detecting the presence of a transcribed comparison the level of expression of the marker in a patient continue and comparing the level of expression of the marker in a patient continue and comparing the level of expression of the marker in a patient continue and comparing the level of expression. The method at a subsequent time and comparing the level of expression. The method is carried out using an ovarian tissue sample. A composition comprising a marker.

Cc invention.
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Best Local S
Matches 21
Hybridisation test for human papilloma virus in cell smears - with long labelled probe specific for particular virus types,
                                                                                                                                                                                                                                                                                                                                                                                                                        Human papilloma cellular smear;
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17-JUL-1990
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                                                                                                                                                                                                    02-OCT-1987;
                                                                                                                                                                                                                                                                                         06-APR-1989
                                                                                                                                                                                                                                                                                                                                                                            Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Partial nucleotide sequence (5'
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                                                                     WPI; 1989-114406/15.
                                                                                                                                                          (MICR-)
                                                                                                                                                                                                                                                                                                                                     WO8902934-A
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                                                                                                                                                          MICROPROBE CORP
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(first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                        type 16; cervical
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Pred. No. 1.8
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                                                                                                                                                                                                                                                                                                                                                                                                                        in situ hybridisation assay wart; cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           end) of human papilloma virus (HPV) type
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                         by reaction
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RESULT 25
ADL63123
ID ADL63
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25-MAY-2000; 2000US-0207124F.
15-JUN-2000; 2000US-0211940P.
07-JUL-2000; 2000US-0216820F.
25-JUL-2000; 2000US-0220661F.
21-DEC-2000; 2000US-0257672F.
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The invention relates to nucleic acid markers which are overexpressed in ovarian cancer cells as compared to their expression in normal (i.e. non-cancerous) ovarian cells. The invention also relates to polypeptides encoded by the markers, antibodies that selectively bind to the polypeptides, a method of inhibiting ovarian cancer in a patient at risk of developing ovarian cancer involving inhibiting expression of a gene corresponding to a marker of the invention and a method of treating a
                                                                                                                                                                                                                                                                                                   Novel isolated nucleic acid molecules (markers) overexpressed in ovarian cancer cells as compared to their normal non-cancerous ovarian cells are used to characterize stage, grade, histological type of ovarian cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2001-611502/70.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human ovarian cancer DNA marker #21335.
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                                                                                                                                                                                                                                                Disclosure;
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                                                                                                                                                                                                                                            SEQ ID NO 21335; 106pp; English.
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Pred. No. 1
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RESULT 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  marker corresponds to a secreted protein or to a transcribed polynucleotide or its portion. The level of expression of the marker is assessed by detecting the presence in the sample, a protein or protein fragment corresponding to the marker. The presence of protein or protein fragment is detected using an antibody that specifically binds with the protein or protein fragment. Alternatively, that specifically binds with the protein or protein fragment. Alternatively, the level of expression of the marker is assessed by detecting the presence of a transcribed the polynucleotide which anneals with the marker or anneals with a portion of the polynucleotide comprising the marker, under stringent conditions. The marker is also used for monitoring the progression of ovarian cancer in a patient which involves detecting expression of the marker in a patient time and comparing the level of expression. The method is carried out using an ovarian tissue sample. A composition comprising a marker, polypeptide or antibody of the invention is used to treat ovarian cancer. This sequence represents a human ovarian cancer DNA marker of the printed specification, but was obtained in electronic format directly from who as intrinsical and carried out the printed specification, but was obtained in electronic format directly
                                                                                                                                                                                    21-DEC-1999;
14-MAR-2000;
12-MAY-2000;
09-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the patient an antisense oligonucleotide complementary to a marker of the invention. The markers are useful for assessing if a patient is afflicted with ovarian cancer, which involves comparing the level of expression of a marker in a patient sample and a normal level of expression of the marker in a control non-ovarian cancer sample. A difference between the expression levels indicates ovarian cancer. The level of expression of a
                                                                                                                                                                                                                                                                                                                                                        08-DEC-2000; 2000WO-US033312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200142467-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cervical cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human cervical cancer marker nucleic acid 3992.
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                                                                                                                                                                                                                                                                                               08-DEC-1999;
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2001-375006/39.
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                                                                                                           MILLENNIUM PREDICTIVE
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2000US-0189315P.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BP; 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ftp.wipo.int/pub/published_pct_sequences.
                                                  Deeds J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first
                                                                                                                                                                                                                                                                                                  99US-0169681P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cytostatic;
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                                                  Berger
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                                                                                                           MEDICINE INC
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New isolated nucleic acid for assessing and detectir

detecting

for diagnosing and treating cervical cancer ng compounds for treating the cancer.

The present sequence encodes an E7E6 fusion protein, comprising wild ty E7 and E6 polypeptides from human papillomavirus type 16 (HPV16). The specification describes human papillomavirus E6 and E7 polypeptides, where the E7 polypeptide has mutations at any one or more of the amino acids corresponding to amino acids 24, 26 or 91 of the sequence given is

comprising wild type

no

n in any

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Page

73;

101pp;

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RESULT 27
ADO44067/c
ID ADO440
XX B6 pro
XX E6 pro
XX Gene;
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                                                                                                                                                                                                                       New polypeptide comprising human papillomavirus E6 and useful for treating or preventing human papillomavirus cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus type 16. Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 03-OCT-2002; 2002US-0415929P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     02-OCT-2003; 2003WO-US031726
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                E6 protein; E7 procer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-JUL-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 745 BP; 190 A; 185 C; 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 1, Page 812, 1051pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 (AMHP ) WYETH HOLDINGS CORP
                                                                                                                                                                                                                                                                                                                                                    2004-316328/29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cancer;
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                                                                                                                                                                                                                                                                                                                                                                                                   Cassetti MC;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene therapy
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E7 protein; fusion protein; l
cer; immune response; lower c
reproductive system cancer;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of an E7E6 fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entry
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "E7E6 fusion
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Pred. No. 1.8;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gastrointestinal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HPV16; HPV-associated cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         penile cancer;
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                                                                                                                                                                                                                                                   E7 polypeptides, (HPV) -associated
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RESULT 28
AD044065/c
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XX AD0440
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KW E6 pro
KW E6 pro
KW gene;
XX Gene;
XX Gene;
XX Human
OS Synthe
XX WO2004
XX WPI; 2
DR P-PSDE
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XX The process
CC polypi
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The present sequence encodes a fusion protein, comprising E6 and E7 polypeptides from human papillomavirus type 16 (HPV16). The fusion protein is designated E6E7PentM, and comprises an E6 amino terminus (where residues 63 and 106 have been replaced with glycine) and an E7 carboxy terminus (where residues 24, 26 and 91 have been replaced with glycine). E6E7PentM is representative of fusion proteins of the invention. The specification describes human papillomavirus E6 and E7 polypeptides, where the E7 polypeptide has mutations at any one or more of the amino acids corresponding to amino acids 24, 26 or 91 of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      one or more of the amino acids corresponding to amino acids 63 or 106 of there sequence given in ADO44072. The polypeptides of the invention are useful for treating or preventing human papillomavirus (HPV)-associated cancers, such as cervical cancer. The fusion proteins and nucleic acids encoding the fusion proteins are useful for generating immune responses against HPV. They are also useful for treating lower gastrointestinal tract cancers, e.g. anal cancer, and other cancers of the reproductive
                                                                                                                                                                                                                                                   New polypeptide comprising human papillomavirus E6 and E7 polypeptides, useful for treating or preventing human papillomavirus (HPV)-associated cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO2004030636-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human papillomavirus type Synthetic.
                                                                                                                                                                                                                  Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          03-OCT-2002; 2002US-0415929P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   02-OCT-2003; 2003WO-US031726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            E6 protein; E7 protein; fusion protein; HPV16; HPV-associated cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADO44065 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 747 BP; 247 A; 132 C; 166 G; 202 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      system, including penile and vulvar cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cervical cancer; immune response; lower gastrointestinal tract
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADO44065;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  (AMHP ) WYETH HOLDINGS
                                                                                                                                                                                                                                                                                                                                       2004-316328/29.
DB; ADO44064.
                                                                                                                                                                                                            24; Page 71; 101pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CAGGACACAGTGGCTTTTGAC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGGACACAGTGGCTTTTGAC
                                                                                                                                                                                                                                                                                                                                                                                                         Cassetti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sequence of a fusion protein designated E6E7PentM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
1. .747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag= a
/product= "B6E7PentM fusion protein"
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 747;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
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                        E7
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RESULT 29
AD044061/c
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
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                                                                                                                                                                                                                                                                                                 New polypeptide comprising human papillomavirus E6 and useful for treating or preventing human papillomavirus cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human papillomavirus Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            E6 protein; E7 protein; fusion protein; HPV16; HPV-associated cancer; cervical cancer; immune response; lower gastrointestinal tract cancer; anal cancer; reproductive system cancer; penile cancer; vulvar cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     03-OCT-2002; 2002US-0415929P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-OCT-2003; 2003WO-US031726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nucleotide sequence of an E6E7 fusion protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (AMHP ) WYETH HOLDINGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO2004030636-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                               2004-316328/29.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGGACACAGTGGCTTTTGAC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cassetti MC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product= "E6E7 fusion protein"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                       E7 polypeptides, (HPV)-associated
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The present sequence encodes an E6E7 fusion protein, comprising wild type E6 and E7 polypeptides from human papillomavirus type 16 (HPV16). The specification describes human papillomavirus E6 and E7 polypeptides, where the E7 polypeptide has mutations at any one or more of the amino acids corresponding to amino acids 24, 26 or 91 of the sequence given in ADO44073 and the E6 polypeptide has no mutations or has mutations at any one or more of the amino acids corresponding to amino acids corresponding to amino acids 63 or 106 of there sequence given in ADO44072. The polypeptides of the invention are

Example 1; Page 68; 101pp; English.

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Best Local S
Matches 21
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The present sequence encodes a fusion protein, comprising E6 and E7 polypeptides from human papillomavirus type 16 (HPVI6). The fusion protein is designated E6E7TetM, and comprises an E6 amino terminus (where residues 63 and 106 have been replaced with glycine) and an E7 carboxy terminus (where residues 24 and 26 have been replaced with glycine). E6E7TetM is representative of fusion proteins of the invention. The specification describes human papillomavirus E6 and E7 polypeptides, where the E7 polypeptide has mutations at any one or more of the amino acids 24, 26 or 91 of the sequence given in ADO44073 and the E6 polypeptide has no mutations or has mutations at any one or more of the amino acids corresponding to amino acids 63 or 106 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                    New polypeptide comprising human papillomavirus 86 and 87 polypeptides, useful for treating or preventing human papillomavirus (HPV)-associated cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                         Claim 24; Page 70; 101pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-OCT-2003; 2003WO-US031726
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cervical cancer; immune response; lower
anal cancer; reproductive system cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 747 BP; 247 A; 132 C; 166 G; 202 T; 0 U;
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DB; ADO44062.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence of a fusion protein designated E6E7TetM
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.8;
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RESULT 31
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The present sequence encodes a fusion protein, comprising E7 and E6 polypeptides from human papillomavirus type 16 (HPV16). The fusion protein is designated E786TetM, and comprises an E7 amino terminus (where residues 24 and 26 have been replaced with glycine) and an E6 carboxy terminus (where residues 63 and 106 have been replaced with glycine). E786TetM is representative of fusion proteins of the invention. The specification describes human papillomavirus E6 and E7 polypeptides, where the E7 polypeptide has mutations at any one or more of the amino acids corresponding to amino acids 24, 26 or 91 of the sequence given in ADO44073 and the E6 polypeptide has no mutations or has mutations at any
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        there sequence given in ADO44072. The polypeptides of the invention are useful for treating or preventing human papillomavirus (HPV)-associated cancers, such as cervical cancer. But the fusion proteins and nucleic acids encoding the fusion proteins are useful for generating immune responses against HPV. They are also useful for treating lower gastrointestinal tract cancers, e.g. anal cancer, and other cancers of the reproductive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human papillomavirus Synthetic.
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cervical cancer;
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                                                                                                                                                                                                                                                                                                                      24; Page 74-75; 101pp; English.
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                                                                                                                                                                                                                                                                                                                                                                               for treating or preventing , e.g. cervical cancer.
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reproductive system cancer; penile cancer; vulvar cancer;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                designated E7E6TetM.
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                                                                                                                                                                                                                                                                                                                                                                                                                E7 polypeptides, (HPV) -associated
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The present sequence encodes a fusion protein, comprising E7 and E6 polypeptides from human papillomavirus type 16 (HPV16). The fusion protein is designated E7E6PentM, and comprises an E7 amino terminus (where residues 24, 26 and 91 have been replaced with glycine) and a carboxy terminus (where residues 63 and 106 have been replaced with glycine). E7E6PentM is representative of fusion proteins of the invention. The specification describes human papillomavirus E6 and E polypeptides, where the E7 polypeptide has mutations at any one or most of the amino acids corresponding to amino acids 24, 26 or 91 of the
                                                                                                                                                           Claim
                                                                                                                                                                                     New polypeptide comprising human papillomavirus E6 and E7 polypeptides, useful for treating or preventing human papillomavirus (HPV)-associated cancers, e.g. cervical cancer.
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                                                                                                                                                                                                                                                                                                Cassetti MC;
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.0%; Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               lower gastrointestinal tract
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      fusion protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1.8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HPV16; HPV-associated cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              penile
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 12;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cancer;
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RESULT 33
ADR47004/C
ID ADR470
XX ADR470
XX ADR470
XX Human
XX ds; ge
KW deleti
KW cervic
KW human
XX 
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Matches 21
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                                                                                                                                                                                                            Virus-like particle vaccines containing dengue as core for carrier, applicable in preventives like cervical cancer and viral diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ds; gene; cytostatic; virucide; dengue videletion; preM protein; C protein; NSI picervical cancer; viral disease; antigen;
                                                                                                                                                                                                                                                                                                                         GENBANK; AF486352.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-JAN-2003; 2003CN-00115272.
30-JAN-2003; 2003CN-00115273.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-JAN-2004; 2004WO-CN000088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO2004072274-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADR47004;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (SHAN-) SHANGHAI TENGEN BIOMEDICAL (TENG-) TENGEN BIOMEDICAL CO. (BEIJ-) BBIJING ORIENTAL TENGEN TEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence given in ADO44073 and the E6 polypeptide has no mutations or has
                                                                                                                                                                                                                                                                                                                                                  PSDB;
                                                                                                                                                                                                                                                                                                                                            2004-625870/60.
DB; ADR47005.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        papillomavirus type 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              papillomavirus type 16 E7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard; DNA; 768
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cytostatic; virucide; dengue virus; recombinant replicon; prem protein; C protein; NS1 protein signal; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= a
/product= "HPV-16 E7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TENGEN TECHNOLOGY
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 809
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              for Dengue virus vaccine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rotein signal; vaccine; dendritic cell; immune response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEV
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                                                                                                                                                                                                                                                                      virus recombinant
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or tumors
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A dengue virus recombinant replicon has a deletion of the complete coding sequence for preM protein of dengue virus and also includes elements of e.g. the non-coding region in the whole of the 5'-end, the coding region of the front 20 amino acids in the C protein, and the coding region of NS1 protein signal; coding regions of all non-structural proteins. The

Example

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SEQ ID NO 1; 38pp; Chinese.

or/and

remedies

for

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RESULT 34
ARF40156/G
ID ARF40
XX ARF40
AC ARF4
AC ARF40
A
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Matches 21
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                                                                                                                                                                                        WPI; 2006-109169/11.
P-PSDB; ABF40157.
GENBANK; AF486352, AF469197, AF472508.
                                                                                                                                                                                                                                                                                                                                                                                                                    30-JAN-2003; 2003CN-00115272
30-JAN-2003; 2003CN-00115273
30-JAN-2004; 2004WO-00072274
                               Example
                                                                                                          New recombinant DEN replicons with a deletion of preM, useful producing a drug for the prophylaxis and treatment of cancer of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29-JUL-2005; 2005US-00192923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26-JAN-2006
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human papillomavirus type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vaccine; virus-like particle; replicon; therapeutic; cancer; cytostatic; neoplasm; viral infection; virucide; infection; oncogene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human papillomavirus 16 (HPV-16) E7-E6 oncogene.
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                                                                                      producing infection.
                                                                                                                                                                                                                                                                                                                                                                   (PANG/)
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                            SEQ
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                               IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /product= "Human papillomavirus 16 (HPV-16) E7-E6
oncoprotein"
/note= "No stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /partial
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                            1;
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                            24pp; English
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RESULT 35
AAT14663/c
ID AAT14663 standard; DNA; 77
XX
AC AAT14663;
XX
DT 27-AUG-2003 (revised)
DT 25-MAR-2003 (revised)
DT 25-MAR-2003 (revised)
DT 25-MAR-2003 (revised)
DT 10-OCT-1996 (first entry)
XX
E6/B7 region of Human Papi
XX
Human papilloma virus; HP
XW
hybridisation; diagnosis;
XX
OS Human papillomavirus type
XX
COS Human papilloma virus; HP
XX
COS Human Papi
XX
CO
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Best Local S
Matches 21
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human papilloma virus; HPV; detection; cervical cancer; amplification; hybridisation; diagnosis; transformed cell; E6; E7; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human papillomavirus type 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          652
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of Human Papilloma Virus 16 (HPV 16).
                                                                                                                                                                                                                                                                                                                                                                        660. .683
                                                                                                                                                                                                                                                                                                                     /*tag=  h
/note= "Primer BB112 binding site."
                                                                                                                                                                                                                                                                                                                                                                                                /*tag= g
/note= "Primer H16-686 binding site."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               591. .621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag= e
/note= "Primer BB111 binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag= d
/note= "Primer BB114 binding site."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     454. .474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /*tag= b
/note= "Primer H16-58 binding site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag= a
/note= "Primer BBll3 binding site."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                       note= "Primer H16-743 binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag= f
/note= "Primer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                note= "Primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   .681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .503
                                                                                                                                                                 "Primer H16-773 binding site."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           776
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BB109 binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BB4 binding site."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            site."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bite."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
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94US-00216233

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RESULT 36
AAX89756/c
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Best Local S
Matches 21
                                                                           12-DEC-1997;
05-JAN-1998;
17-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            An in situ hybridisation assay for detecting an intracellular marker of low copy number in cells comprises fixing the cells to a support using paraformaldehyde, treating the cells with a protease to permeabilise them without altering morphology; adding amplification reagents; incubating the cells at below fifty degrees celsius to perform amplification by self—sustained sequence replication; adding a labelled probe complementary to the region between the primers; washing cells to remove unhybridised probe and then detecting the labelled probe. The B6/B7 region of human papilloma virus (HPV) 16 is used especially to detect mRNA being transcribed from this region which becomes active in transformed cells. The method can be used for the early diagnosis of cervical cancer. Primers used to amplify fragments of the B6/B7 region are described in AAT14664-T14674. (Updated on 25-MAR-2003 to correct PP field.) (Updated on 27-AUG-2003 to correct OS field.)
                                                                                                                                                                                                     Synthetic.
Human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Detection of low copy number intracellular markers - by 3SR amplification of target RNA in fixed cells then hybridisation with labelled probe, for detecting human papilloma virus in cervical cells.
                                                                                                                                                                                                                                                                                                                                                        AAX89756;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 776 BP; 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 2; Fig 3; 21pp; English.
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                                                                                                                                11-DEC-1998;
                                                                                                                                                         17-JUN-1999.
                                                                                                                                                                                                                                                             human papilloma virus; infection; gene
                                                                                                                                                                                                                                                                                        Probe sequence for HPV 16 E6/E7.
                                                                                                                                                                                                                                                                                                                 27-AUG-2003
12-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                 AAX89756 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10-DEC-1991;
WPI; 1999-443850/37
                        Lorincz
                                                                                                                                                                                WO9929890-A2
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                                                   (DIGE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                 358
                                                                                                                                                                                                                                                  cancer;
                                                   DIGENE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INT INC
                                                                                                                                                                                                                                                                                                               (revised)
(first entry)
                                                                           97US-0069426P.
98US-0070486P.
98US-0082167P.
                                                                                                                                                                                                                                                  virus; HPV; ss.
                                                   CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            91US-00808456.
                                                                                                                                98WO-US026447.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; 139 C;
                                                                                                                                                                                                                                                                                                                                                                                 779
                                                                                                                                                                                                                                                                                                                                                                                 ВP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      169 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      208 T;
                                                                                                                                                                                                                                                              expression; probe; detection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.9;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 776;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0 Other;
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Best Local
                                                                                                                                                                                                                                                                                                                                                            24-OCT-2003
25-MAR-2003
09-MAR-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This nucleotide probe is specific for the HPV16 Human Papilloma Virus (HPV) gene. The degree of HPV infection can be assessed, by measuring levels of expression of genes involved in the diseased state, and comparing the expression to each other or to reference genes. (Updated 27-AUG-2003 to correct OS field.)
                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                               AAQ29389;
                                                                                                                                                                                                                                                                                                                                                                                                                AAQ29389 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 779 BP; 259 A; 139 C; 170 G; 211 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   comparison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New method
                  P-PSDB; AAR27723, AAR27724, AAR27725
                            WPI; 1992-349219/42.
                                                                              14-MAR-1991;
                                                                                               10-MAR-1992;
                                                                                                               01-OCT-1992
                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                          Virus vector; vaccinia virus; papillomavirus; HPV; human; amplification;
                                                                                                                                                                                                                                                                                                                                           DNA encoding
                                                                                                                                WO9216636-A1
                                                                                                                                                                                                                                                                                                                  immunotherapeutic; ss.
                                                            (IMMU ) IMMUNOLOGY LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           365
                                                                                                                                                                                                                                                                                                 papillomavirus type 16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CAGGACACAGTGGCTTTTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAGGACACAGTGGCTTTTGAC 345
                                            MEG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for assessing Human Papilloma Virus (HPV) infection of gene expression levels.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                            HPV 16 E6/E7
                                                                                                                                                                                                                                                                                                                                                                    (revised)
                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                              91GB-00005383
                                                                                               92WO-GB000424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5; 35pp;
                                           Inglis SC,
                                                                                                                                                                   485.
                                                                                                                                                         /*tag=
                                                                                                                                                                          /*tag= e
/note= "third reading frame
                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                 note= "second reading
                                                                                                                                                                                                                                                      note= "reading
                                                                                                                                                                                                   note= "reading
                                                                                                                                                                                                             *tag=
                                                                                                                                                                                                                             note= "reading
                                                                                                                                                                                                                                      *tag=
                                                                                                                                                                                                                                                               *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                 DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
                                                                                                                                                                  .781
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                                                                                                                                                                                                                                                                                                                                                                                                                 790
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                             Munro
                                                                                                                                                                                                                                                                                                                                                                                                                 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 21;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                     frame
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                                            £
                                                                                                                                                                                                                              2
                                                                                                                                                frame encoding HPV 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .9;
                                                                                                                                                                           encoding HPV 16 E6"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 779
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Recombinant virus vectors encoding human papillomavirus proteins -

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RESULT 38
AAT31833/c
ID AAT318
XX AAT318
XX AAT318
XX Human
XX Hum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The fragment of DNA contg. the HPV-16 E6/E7 coding region was prepd. by CC PCR from plasmid pBR322/HPV16 (Durst et al., PNAS, 80: 3812 (1983)) using CC oligonucleotides SO5 and SO6. The DNA prod. has a site for NcoI at the CC beginning of the E6 gene and a SmaI site immediately downstream of the CC termination codon for E7. The E6 and E7 ORPs are fused together to form a CC single continuous ORF via site directed mutagenesis and the immortilising CC potential of E7 is removed by altering two key codons of the HPV E7 CC sequence. The single ORF of HPV-16 E6/E7 may be inserted into vaccinia CC virus DNA at neutral sites (pref. by inserting two sets of the DNA in CC opposite orientations to overcome the problem of intertypic C immunotherapeutically to activate cells of the immune system against HPV. CC See also AAQ29385-400 and AAQ29450-69. (Updated on 25-MAR-2003 to correct CP PN field.) (Updated on 24-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 21
                                                               Vaccine variants of human papilloma virus antigens - contain variants of E6 and/or E7 protein, pref. deletion mutants, and are used to treat or prevent HPV infection.
                                                                                                                                                                                                                                                                                               Edwards SJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     W09619496-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              humoral immune response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human papilloma virus E6/E7 protein variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27-AUG-2003
10-JAN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAT31833;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAT31833 standard; DNA; 801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    treating and vaccinating against \ensuremath{\mathsf{HPV}} infections and conditions caused them, such as cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-DEC-1995;
                                                                                                                                                                                                                                                                                                                                                               (UYQU )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local 21,
                                                                                                                                                                                              1996-309518/31.
DB; AAR97561.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         papilloma virus; E6; E7; deletion mutant; HPV; immune response;
                                                                                                                                                                                                                                                                                                                                                            UNIV QUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity 100
21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGGACACAGTGGCTTTTGAC 343
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(first en
                                                                                                                                                                                                                                                                                            Cox J,
                                                                                                                                                                                                                                                                                                                                                            QUEENSLAND
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95WO-AU000868
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product= "E6/E7 fusion protein."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%;
                                                                                                                                                                                                                                                                                               Webb
37pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cellular immune response; vaccine; ss.
                                                                                                                                                                                                                                                                                            EA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
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Pred. No. 1.9
D; Mismatches
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                                                                                                                                                                                                                                                                                               Frazer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           209 T;
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Example 1;

Page 15-16;

Query Match Best Local Similarity

100.0%;

Score 21; Pred. No.

DB 1.9; <u>ب</u>

Length 822,

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AAX78792/c
ID AAX787
XX AAX787
AC AAX787
AC AAX787
AC AAX787
XX Fusion
CX Fusion
XX Fusion
XX Fusion
XX HPV an
XX Synthe
CS Human:
XX W09933
XX W09933
XX CS Synthe
XX IS Human:
XX IS Huma
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Best Local Simi
Matches 21;
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                                                            AAX78791-X78801 represent nucleic acid sequences which encode novel constructs comprising an 86 or 87 protein or 86/87 fusion protein from HPV (represented in AAY2575-Y25386). These constructs are optionally linked to an immunological fusion partner and an immunomodulatory CpG oligonucleotide. The products of the invention can be used to induce as immune response in a patient to an HPV antigen. They can also be used i preventing or treating HPV induced tumours
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fusion protein; E6 protein; E7 protein; E6/E7; immunomodulator; tumour; immunological fusion partner; CpG oligonucleotide; immune response; HPV antigen; prevention; treatment; 88.
   Sequence 822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                           Composition comprising an E6, induce immune response to HPV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO9933868-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HPV fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAX78792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAX78792 standard; DNA; 822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1999-405485/34.
DB; AAY25376.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            358 CAGGACACAGTGGCTTTTGAC 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                papillomavirus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein D1/3-E6-His/HPV16 DNA
                                                                                                                                                                                                                                                                                                               Page 48; 62pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
      BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97GB-00027262.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 98WO-EP008563.
277 A; 147 C; 168 G; 230 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     266 A; 150 C; 174 G; 211 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
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Pred. No. 1.9;
                                                                                                                                                                                                                                                                                                                                                                                                        E7 or E6/E7 fusion protein from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2;
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be used for
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RESULT 41
AED52633/c
ID AED526
XX
AC AED526
XX
AC AED526
XX
DT 29-DEC
XX
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                                                                                                                    Matches
                                                                                                                            Query Match
Best Local :
                                                                                                                                                                   This sequence represents the coding region for a chimeric E6 or E7 protein or E6/E7 fusion protein from Human papillomavirus (HPV) linked to an immunological fusion partner, in this case, a fragment of the Haemophilus influenzae B protein D. The sequence also contains a histidine tag at the C-terminus of the encoded protein. The protein can be used in a vaccine, for immuno-therapeutically treating HPV induced tumour lesions (benign or malignant) and preventing HPV viral infection. (Updated on 17-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                Human papillomavirus.
Haemophilus influenza
                                                                                                                                                     Sequence 822
                                                                                                                                                                                                                                                 Disclosure; Fig 3; 95pp; English.
                                                                                                                                                                                                                                                                                            WPI; 1999-190587/16.
                                                                                                                                                                                                                                                                                                                     Bruck C,
                                                                                                                                                                                                                                                                                                                                                      22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                        04-MAR-1999.
                                                                                                                                                                                                                                                                                                                                                                                                        WO9910375-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Chimeric;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Prot.D1/3-E6-His/HPV16 coding sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-OCT-2003
22-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAX29781;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAX29781 standard; DNA; 822
         29-DEC-2005
                          AED52633;
                                          AED52633
                                                                                                                                                                                                                                                                                                                                                                      17-AUG-1998;
                                                                                                                                                                                                                                                                                                                                      (SMIK)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40
                                                                                    676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         676
                                                                                                                                                                                                                                                                 Papilloma Virus (HPV) fusion proteins - useful in ment or prophylaxis of HPV induced lesions.
                                                                                                                  21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21;
                                                                                                   1 CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                      SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                                            Similarity
                                          standard;
                                                                                   CAGGACACAGTGGCTTTTGAC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₽6;
                                                                                                                                                                                                                                                                                                                    Cabezon Silva T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                  influenzae.
                                                                                                                                                    BP; 277 A; 147 C; 168 G; 230 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (revised)
(first entry)
         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  E7;
                                                                                                                                                                                                                                                                                                                                                      97GB-00017953.
                                                                                                                                                                                                                                                                                                                                                                       98WO-EP005285
                                                                                                                                                                                                                                                                                                                                                                                                                                                          benign;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          fusion protein; protein D; vaccine; it
enign; malignant; virus; infection; ss
                                          DNA;
                                                                                                                           100.0%;
                                          822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BP.
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                                                                                                                                                                                                                                                                                                                     Delisse AEF,
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                                                                                                                           Score 21;
Pred. No.
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                                                                                                                    Mismatches
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                                                                                                                                    Length 822;
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Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  immunotherapy;
                                                                                                                                                                                                                                                                            vaccines for
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                                                                                                                    Gaps
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RESULT 42
AAX78795/c
ID AAX787
XX AAX7877
XX AAX787
DT 06-SEP
XX HPV fu
XX Fusion
KW Immuno
KW Immuno
KW HPV an
XX Synthe
OS Synthe
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                                                                                                                                                                                                      Query Match
Best Local &
                                                                                                                                                                                                Matches
        Synthetic.
Human papillomavirus
                                                                                    06-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            04-MAR-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDS
                                                                                                                     AAX78795
                                                                                                                                                                                                                                                                                                                                                                                                                                          22-AUG-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Haemophilus
                                                                                                                                                                                                                                                  invention.
                                                                                                                                                               676
                                                                                                                                                                                               21;
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The invention relates to human Papilloma virus (HPV) fusion proteins, linked to an immunological fusion partner that provides T helper epitopes to the HPV antigen. Vaccine formulations comprising the fusion proteins are useful in the treatment or prophylaxis of HPV induced lesions (papillomas, warts and cervical cancer). HPV 16 (and HPV 18) B6 and B7 proteins (singly, as an B6-E7 fusion or mutated) were fused to either Haemophilus influenzae D protein (20-127), the C-terminus of Streptococcus pneumoniae Lyth protein (cLyth) or thioredoxin. The present sequence encodes an HPV-H. influenzae D protein, fusion protein of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human papillomavirus type Synthetic. Chimeric.
Pusion protein; E6 protein; E7 protein; E6/E7; immulimmunological fusion partner; CpG oligonucleotide; HPV antigen; prevention; treatment; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 822 BP; 277 A; 147 C; 168 G; 230 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2005-557648/57
P-PSDB; AED52634.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fusion
                                                                                                          HPV fusion protein CLYTA-E6-His/HPV16 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 4; Fig 3; 96pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein D1/3-E6-His/HPV16, DNA.
                                                                                                                                                                                                                                                                                                                                                                                               CAGGACACAGTGGCTTTTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGGACACAGTGGCTTTTGAC
                                                                                                                                                                                                                                                               standard; DNA; 879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; llarity 100.0%; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              influenzae; strain 772.
lomavirus type 16.
                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97EP-00179535
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /product= "Fusion protein D1/3-B6-His/HPV16"
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                                                           immunomodulator; tumour;
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Best Local S
Matches 21
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                                                                                                                                                                                                                                                                                                                                                                                                                  Human papillomavirus.
Streptococcus pneumoniae.
                            P-PSDB; AAY02635
                                               WPI; 1999-190587/16
                                                                                                                                                                                                                                                     17-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                  WO9910375-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chimeric;
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22-JUN-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                preventing or treating HPV induced tumours
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example VI; Page 52; 62pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Composition comprising induce immune response
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                                                                                                                                                                                                            22-AUG-1997;
                                                                                            Lombardo-Bencheikh A;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  c; 86; 87; fusion protein;
benign; malignant; virus;
                                                                                                                                                               SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gerard
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                                                                                                               Silva
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     entry)
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                                                                                                                  Delisse AEF,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     713
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLYTA; vaccine; infection; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E6/E7 fusion protein from HPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 2;
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                                                                                                                  Gerard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u>,</u>
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Best Local
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AED52641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This sequence represents the coding region for a chimeric E6 or E7 protein or E6/E7 fusion protein from Human papillomavirus (HPV) linked to an immunological fusion partner, in this case, a fragment of the streptococcus pneumoniae CLYTA protein. The sequence also contains a histidine tag at the C-terminus of the encoded protein. The protein can be used in a vaccine, for immuno-therapeutically treating HPV induced tumour lessions (benign or malignant) and preventing HPV viral infection. (Updated on 17-OCT-2003 to standardise OS field)
          The invention relates to human Papilloma virus (HPV) fusion proteins, linked to an immunological fusion partner that provides T helper epitopes to the HPV antigen. Vaccine formulations comprising the fusion proteins are useful in the treatment or prophylaxis of HPV induced lesions (papillomas, warts and cervical cancer). HPV 16 (and HPV 18) E6 and E7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 879 BP; 289 A; 168 C; 209 G; 213 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human Papilloma Virus (HPV) fusion proteins - useful in vaccines treatment or prophylaxis of HPV induced lesions.
                                                                                        Example 10;
                                                                                                                                          P-PSDB; AED52642.
                                                                                                                                                                                                                                    22-AUG-1997;
                                                                                                                                                                                                                                                              24-AUG-1998;
                                                                                                                                                                                                                                                                                        04-MAR-2005
                                                                                                                                                                                                                                                                                                                  IN9801903-I4
                                                                                                                                                                                                                                                                                                                                                                                                           Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           virucide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fusion protein; vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fusion protein cLytA-E6-His/HPV16,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-DEC-2005
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                                                                                                                                                                                                          (SMIK )
                                                                                                                                                         2005-557648/57
                                                                                                                                                                                                                                                                                                                                                                                                                                   papillomavirus type
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        otein; vaccine; papilloma; cytostatic; papillomavirus infection; uterine cervix tumor; E6; ds; gene; LytA.
                                                                                       Fig 10; 96pp; English
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                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
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/product= "Fusion protein cLytA-E6-His/HPV16'
                                                                                                                                                                                                                                                                                                                                                                    .879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA;
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Pred. No. 1.
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oncogenes of interest in their epithelial cells, and materials and methods for their production. Expression of the oncogenes is controlled by a sequence from the human involucin upstream regulatory region (see AAA09476) which targets expression to desired tissues and cells (i.e. suprabasal stratified squamous epithelial tissue). The transgenic animal are useful as animal models for studying neoplastic diseases that affect epithelial tissues, such as those caused by the papillomavirus 16 oncogene E6 or E7 nucleic acid sequences and including blistering diseases (e.g. epidermolytic hyperkeratinosis, Dowling-Meara disease), proliferative diseases (e.g. psoriasis, epidermal lysis and Bulosa simplex), ichthyosis disease (e.g. Ichthyosis bullosa Simens and encessive X-linked ichthyosis) and cancers of the skin, breast, lung,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mat_peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Haemophilus influenzae D protein (20-127), the C-terminus of Streptococcus pneumoniae LytA protein (cLytA) or thioredoxin sequence encodes an HPV-LytA, fusion protein of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eckert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-OCT-1998;
29-OCT-1999;
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                                                                                                                                                                                                                                                                                 The invention concerns transgenic non-human animals that express
                                                                                                                                                                                                                                                                                                                               Disclosure; Fig 13; 86pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2000-365596/31.
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                                                                                                                                                                                                                                                                                                                                                                           nic animals that express oncogenes in epithelial tissue, models for neoplastic conditions such as psoriasis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
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99US-00430201
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628. .921
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 21; 100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                  English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          E6 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein (cLytA) or thioredoxin. fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          open reading
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                thioredoxin. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             frames.
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                                                                                                                                                                                                                                                                                                                                                                                melanomas
                                                                                                                                                                                                                                                                                                                                                                                                      useful as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                            animals
affect
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AAQ08627/c ID AAQ086 XX

AAQ08627

standard; DNA; 1000

RESULT 47

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                                          Matches
                                                       Best
                                                               Query Match
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                                                                                                                                          The present invention relates to an alphavirus vector system comprising nucleic acid derived from a human papilloma virus (HPV). The invention cells containing it, are used in treatment and prevention of cervical cancer, particularly as a vaccine. By selecting the nucleic acid that encode E6/E7 proteins without ability to bind to pRb and p53, the risk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          colon, cervix and liver. candidate agents for the (claimed)
                                                                                     Sequence 939 BP;
                                                                                                          sequence is Human
                                                                                                                     that cells infected with the alphavirus vector system may be oncogenic is avoided (contrast use of other viral vectors).
                                                                                                                                                                                                                                  New alphavirus system, useful for genetic immunization against cervical cancer, comprises papilloma virus nucleic acid.
                                                                                                                                                                                                                                                                     WPI; 2002-354156/39.
                                                                                                                                                                                                                                                                                                                                       06-OCT-2000; 2000EP-00203472
                                                                                                                                                                                                                                                                                                                                                             06-OCT-2000; 2000EP-00203472
                                                                                                                                                                                                                                                                                                                                                                                                         EP1195438-A1
                                                                                                                                                                                                                                                                                                                                                                                                                             Human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alphavirus vector system; human papilloma virus; therapy; vaccine; virucide; cytostatic; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human papillomavirus enhE6,7 constrcut DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAD35101 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                              Example 2;
                                                                                                                                                                                                                                                                                                                (UYGR-) RIJKSUNIV GRONINGEN.
                                                                                                                                                                                                                                                                                                                                                                                   10-APR-2002
                                                     Local
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                                                     Similarity
              CAGGACACAGTGGCTTTTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      921 BP; 308
 CAGGACACAGTGGCTTTTGAC
                                                                                                                                                                                                             Fig 19; 45pp; English.
                                                                                                                                                                                                                                                                                          Wilschut JC,
                                       ilarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                     284 A; 197 C; 217
                                                                                                          papillomavirus enhE6,7 constrcut DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
                                                              100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The animal models may also be used to screability to prevent or treat these diseases
                                                                                                                                                                                                                                                                                         Holtrop
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Pred. No.
                                                    Score 21;
Pred. No.
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                                           Mismatches
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                                                                                     G; 241 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      G; 249 T;
                                                                                                                                                                                                                                                                                           Daemen CAHH;
                                                     1.9;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 3;
                                                                DB 6;
                                                                                     0 U;
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                                                               Length 939;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               HPV; cervical cancer;
                                                                                      0 Other;
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                                           Gaps
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RESULT 48
AAN91784/c
ID AAN917
XX
AC AAN917
XX
DT 27-AUG
DT 25-MAR
DT 16-MAR
XX
DB DNA pr
XX
KW Cervic
XX
KW Cervic
XX
KW Cevic
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Best Local S
Matches 21
                                                                                                  27-AUG-2003
25-MAR-2003
16-MAR-1990
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                                                                                                                                              AAN91784;
                                                                                                                                                                  AAN91784 standard;
                                                                                                                                                                                                                                                                                                              Sequence 1000 BP; 340 A; 171 C; 230 G; 259 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                   Example 4b describes the results of the amplification of HPV-16 DNA by PCR using primers. (Updated on 24-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                           Detection
                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1990-156905/21.
                                                                                                                                                                                                                                                                                                                                                                                                                                     Cerutti P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11-NOV-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human papillomavirus type 16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HPV-18; HPV-16; amplification; primer; polymerase chain reaction; PCR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HPV-16 fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24-OCT-2003
21-APR-1994
            WO8909940-A
                               Human papillomavirus
                                                       Cervical cancer.
                                                                            DNA probe complementary to human
                                                                                                                                                                                                                                                                                                                                                                   Example 4b; Page 4; llpp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11-NOV-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-MAY-1990.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DE3838269-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           (BEHW ) BEHRINGWERKE
                                                                                                                                                                                                                         440 CAGGACACAGTGGCTTTTGAC 420
                                                                                                                                                                                                                                        1 CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                     21;
                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                         of human papilloma virus -
                                                                                                                                                                                                                                                                                                                                                                                                                                    Whitcomb J, Zijlstra J,
                                                                                                                                                                                                                                                                     Conservative
                                                                                               (revised)
(revised)
(first entry)
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(first en
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/note= "primer (AAQ08629) binding site"
658. 677
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/note= "primer (AAQ08628) binding site"
601. .620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /*tag= c
/note= "primer (AAQ08630) binding site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                  DNA; 1005 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
                                                                                                                                                                                                                                                                  100.0%; Score 21;
100.0%; Pred. No.
tive 0; Mismatch
                                                                                                                                                                                                                                                                                                                                                                                                                                                           န
                                type 16
                                                                                                                                                                                                                                                                     Mismatches
                                                                           papilloma virus type 16.
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                                                                                                                                                                                                                                                                              1.9;
                                                                                                                                                                                                                                                                                                                                                                                           DNA amplification and analysis
                                                                                                                                                                                                                                                                                       DB 2; Length 1000;
                                                                                                                                                                                                                                                                     <u>,</u>
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AAX78793/c
ID AAX787
XX AAX787
XX AAX787
XX AAX787
XX HPV fu
XX Fusion
XW Immuno
XW Immuno
XW HPV an
OS Synthe
OS Human
XX
WO9933
XX
WO9933
XX
PD 08-JUL
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PD 08-JUL
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Best Local S
Matches 21
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                                        Example III; Page 49; 62pp; English.
                                                                   Composition comprising induce immune response
                                                                                                             WPI; 1999-405485/34.
P-PSDB; AAY25377.
                                                                                                                                                      Dalemans WLJ,
                                                                                                                                                                                                             24-DEC-1997;
                                                                                                                                                                                                                                       18-DEC-1998;
                                                                                                                                                                                                                                                                     08-JUL-1999.
                                                                                                                                                                                                                                                                                             WO9933868-A2
                                                                                                                                                                                                                                                                                                                                         Synthetic
                                                                                                                                                                                                                                                                                                                                                                  HPV antigen; prevention;
                                                                                                                                                                                                                                                                                                                                                                              Fusion protein; E6 protein; E7 protein; E6/E7; immunomodulator; tumour; immunological fusion partner; CpG oligonucleotide; immune response;
                                                                                                                                                                                                                                                                                                                                                                                                                      HPV fusion protein D1/3-E6E7-His/HPV16 DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     06-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAX78793;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAX78793 standard; DNA; 1116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1005 BP; 325 A; 182 C; 190 G; 308 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rapid detection of specific human papilloma virus genotypes - by hybridisation of DNA digest with new labelled nucleic acid probes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1989-324314/44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        George AL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              04-APR-1988;
31-MAR-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        04-APR-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19-OCT-1989
                                                                                                                                                                                 (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                                                                                                                                                                                                                                      Human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (ONCO-) ONCOR INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                892 CAGGACACAGTGGCTTTTGAC 872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       40; Page 46; 81pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CAGGACACAGTGGCTTTTGAC 21
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21; Conservative
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                                                                                                                                                      Gerard
                                                                                                                                                                                                             97GB-00027262
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89US-00330381.
                                                                                                                                                                                                                                         98WO-EP008563
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ନ
                                                                 to HPV.
                                                                                                                                                                                                                                                                                                                                                                     treatment; ss.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₽₽
                                                                                 E7 or E6/E7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                 fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1005;
                                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                   from HPV to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         field.)
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AAX78791-X78801 represent nucleic acid sequences which encode novel constructs comprising an E6 or E7 protein or E6/E7 fusion protein f

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RESULT 50
AAX29782/c
ID AAX29782 standard; DNA; 1116 BP.
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Best Local S
Matches 21
                                          Matches
                                                         Query Match
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                                                                                                                          This sequence represents the coding region for a chimeric E6 or E7 protein or E6/E7 fusion protein from Human papillomavirus (HPV) linked to an immunological fusion partner, in this case, a fragment of the Haemophilus influenzae B protein D. The sequence also contains a histidine tag at the C-terminus of the encoded protein. The protein can be used in a vaccine, for immuno-therapeutically treating HPV induced tumour lesions (benign or malignant) and preventing HPV viral infection. (Updated on 17-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HPV (represented in AAY25375-Y25386). These constructs are optionally linked to an immunological fusion partner and an immunomodulatory CpG oligonucleotide. The products of the invention can be used to induce an immune response in a patient to an HPV antigen. They can also be used for preventing or treating HPV induced tumours
                                                                                                                                                                                                                                                                                       Human Papilloma Virus (HPV) fusion proteins - useful in vaccines for treatment or prophylaxis of HPV induced lesions.
                                                                                                                                                                                                                                                                                                                                                                              Bruck C, Cabezon Silva T, Lombardo-Bencheikh A;
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Haemophilus influenzae.
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Guterman, I., Shalit, M., Menda, N., Piestun, D., Dafny-Yelin, M., Shalev, G., Bar, E., Davydov, O., Ovadis, M., Emanuel, M., Wang, J., Adam, Z., Pichersky, E., Lewinsohn, E., Zamir, D., Vainstein, A. and
                                                                                                                                                 Faculty of Agricultural, Food and Environmental Quality Sciences, The Hebrew University of Jerusalem
P.O. Box 12, Rehovot, 76100, Israel
Tel: 972 8 9489 683
Fax: 972 8 9468 265
Email: shaham@agri.huji.ac.il
                                                                                                                                                                                                                                                                                                         Rose Scent: Genomics Approach to Discovering Fragrance-Related Genes Plant Cell 14 (10), 2325-2338 (2002) Contact: Naama Menda
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Rosa hybrid cultivar cDNA clone fc2102.e 5', mRNA sequence.
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/mol_type="mRNA"

/strain="Fragrant Cloud"

/db_xref="taxon:128735"
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BM193784 TCAAP1D82
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B90843 CIT-HSP-217
AW900115 CMO-NN100
AI100673 35048 Lam
BU733286 UI-E-CII-
AW665451 hj04a03.x
BZ938673 CH240 64C
BI473695 fp41all.y
B69790 CIT-HSP-205
AI035861 ub46hll.r
AA602631 no91e05.s
B34265 HS-1024-A2-
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CO208022 WS0094.B2
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ORGANISM
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VERSION
KEYWORDS
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BB333633
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                                                               FEATURES
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                            Email: genome-resegsc.riken.jp, URL:http://genome.gsc.riken.jp/Carninci,P., Nishiyama,Y., Westover,A., Itoh,M., Nagaoka,S., Sasaki,N., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y. Thermostabilization and thermosctivation of thermolabile enzymes by trehalose and its application for the synthesis of full length cDNA. Proc. Natl. Acad. Sci. U.S.A. 95 (2), 520-524 (1998)
Itoh,M., Kitsunai,T., Akiyama,J., Shibata,K., Izawa,M., Kawai,J., Tomaru,Y., Carninci,P., Shibata,Y., Ozawa,Y., Muramatsu,M., Okazaki,Y. and Hayashizaki,Y., Ozawa,Y., Muramated filtration-based high-throughput plasmid preparation system. Genome Res. 9 (5), 463-470 (1999)
Iigh-refficiency full-length cDNA cloning. Methods Enzymol. 303, 19-44 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Konno, H., Aizawa, K., Akahira, S., Akiyama, J., Arakawa, T., Carninci, P., Endo, T., Fukuda, S., Fukunishi, Y., Hara, A., Hayatsu, N., Hirozane, T., Hori, F., Ishii, Y., Ishikawa, J., Ishikawa, T., Itoh, M., Izawa, M., Kadota, K., Kagawa, I., Kai, C., Kawai, J., Kikuchi, N., Izawa, M., Kadota, K., Kagawa, I., Kai, C., Kawai, J., Kikuchi, N., Kiyasawa, H., Kojima, Y., Kondo, S., Koya, S., Kurihara, C., Kiyosawa, H., Kojima, Y., Kondo, S., Koya, S., Kurihara, C., Oda, H., Okazaki, Y., Ono, T., Owa, C., Saito, H., Sakai, C., Saco, K., Shibata, K., Shibata, Y., Shigemoto, Y., Shinagawa, A., Shiraki, T., Sogabe, Y., Sugahara, Y., Suzuki, H., Tagawa, A., Shiraki, A., Yasahasahi, F., Tominaga, N., Toya, T., Tsunoda, Y., Watahiki, A., Yasahisai, K., Yashizai, Y., Yasahizai, Y., Yasahizai, Y., Yasahizai, Y., Yasahizai, Y., Yoshiki, A., Yoshiki, A., Yoshiki, A., Yoshiki, A., Yoshiki, A., Yoshiki, Y., Yasahizai, Y., Y
                                                                                                                                                                                                                                                                                                                                                                                                                                 Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan
Tel: 81-45-503-9222
Fax: 81-45-503-9216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RIKEN Mouse ESTs (Konno,H., et al.)
Unpublished (2000)
Contact: Yoshihide Hayashizaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Mus.
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BB333633 RIKEN full-length enriched, 10 days neonate medulla
oblongata Mus musculus cDNA clone B830014D01 3', mRNA sequence.
BB333633
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BB333633.1 GI:9042396
                                                                                                          Please visit our web
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                                                                                        details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="fc2102.e"
/tissue_type="Petals"
/dev_stage="Young open flower at stage four"
/clone_lib="Rose Petals (Fragrant Cloud) Lambda
Express Library"
/note="Vector: pBKCMV; Site_1: EcoRI; Site_2: Xh
                  organism="Mus musculus"
                                                               Location/Qualifiers
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                                                                                                          site (http://genome.rtc.riken.go.jp) for
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Pred. No. 35;
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Kawai, J.,

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JOURNAL COMMENT
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AUTHORS
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                                              Laboratory for Genome Exploration Research Group, Sciences Center (GSC), Yokohama Institute The Institute of Physical and Chemical Research (197-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagaw, Tel: 81-45-503-9222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eut
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Mus.
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                                                                                                                                                                                      RIKEN Mouse ESTs (Konno, H., et al.)
Unpublished (2000)
Contact: Yoshihide Hayashizaki
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BB264006.1 GI:8960462
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genome-res@gsc.riken.jp,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="Site 1: Sall; Site 2: BamHI; cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to prepare mouse tissues strand cDNA was primed with a primer [5' GAGAGAGAGAGAGAGCCCTTTTTTTTTTTTTTTTTTVN 3'], cDNA was
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             prepared by using trehalose thermo-activated reverse
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| day | neonate"
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/clone="B830014D01"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                87.6%;
95.0%;
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Pred. No. 6.6e+02;
URL:http://genome.gsc.riken.jp/
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                                                                                 Kanagawa
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                                                                                 230-0045, Japan
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RESULT 3 BB264006 LOCUS

KEYWORDS

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Thermostabilization and thermoactivation of thermolabile enzymes by trehalose and its application for the synthesis of full length cDNA. Proc. Natl. Acad. Sci. U.S.A. 95 (2), 520-524 (1998)
Itoh,M., Kitsunai,T., Akiyama,J., Shibata,K., Izawa,M., Kawai,J., Tomaru,Y., Carninci,P., Shibata,Y., Ozawa,Y., Muramatsu,M., Okazaki,Y. and Hayashizaki,Y.
Okazaki,Y. and Hayashizaki,Y.
Automated filtration-based high-throughput plasmid preparation system. Genome Res. 9 (5), 463-470 (1999)
Carninci,P. and Hayashizaki,Y.
High-efficiency full-length cDNA cloning. Methods Enzymol. 303,
Konno,H., Alzawa,K., Akahira,S., Akiyama,J., Arakawa,T., Konno,H., Alzawa,K., Eukuda,S., Fukunishi,Y., Hara,A., Hayatsu,N., Carminci,P., Endo,T., Fukuda,S., Fukunishi,Y., Hara,A., Hayatsu,N., Hirozane,T., Hori,F., Ishii,Y., Ishikawa,J., Ishikawa,T., Itoh,M., Tzawa.M.. Kadota,K., Kagawa,I., Kai,C., Kawai,J., Kikuchi,N.,
                                                                                                                                                                                                                                                                                                       BB347346
BB347346 RIKEN full-length enriched, 10 da musculus CDNA clone B930065F09 3' similar
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                                                                                                              Bukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodent
Sciurognathi; Muroidea; Muridae; Murinae; Mus.
                                                                                                                                                                                   Mus musculus
                                                                                                                                                                                                        Mus musculus (house mouse)
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                                                                                         (bases 1 to 291)
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| lab_host="DH10B"
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95.0%;
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Pred. No. 6.8e+02;
0; Mismatches 1;
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d, 10 days neonate cereve-
rimilar to X95600 M.musculus
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                                                                                                                                           Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       291;
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a cerebellum Mus
                                                                                                                                                                Euteleostomi;
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Best Local &
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      trehalose and its application for the synthesis of full length CDNA. Proc. Natl. Acad. Sci. U.S.A. 95 (2), 520-524 (1998)
Itoh, M., Kitsunai, T., Akiyama, J., Shibata, K., Izawa, M., Kawai, i. Tomaru, Y., Carninci, P., Shibata, Y., Ozawa, Y., Muramatsu, M., Okazaki, Y. and Hayashizaki, Y.
Automated filtration-based high-throughput plasmid preparation system. Genome Res. 9 (5), 463-470 (1999)
Carninci, P. and Hayashizaki, Y.
High-efficiency full-length cDNA cloning. Methods Enzymol. 303, 19-44 (1999)
Please visit our web site (http://genome.rtc.riken.go.jp) for further details
2 AGGACACAGTGGCTTTTGAC 21
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Kusakabe, M., Matsuyama, T., Miki, R., Mizuno, Y., Nakamura, M., Oda, H.,
Okazaki, Y., Ono, T., Owa, C., Saito, H., Sakai, C., Sato, K.,
Shibata, Y., Shibata, Y., Shigemoto, Y., Shinagawa, A., Shiraki, T.,
Sogabe, Y., Sugahara, Y., Suzuki, H., Suzuki, H., Tagawa, A.,
Takahashi, F., Tominaga, N., Toya, T., Tsunoda, Y., Watahiki, A.,
Watanabe, S., Yamamura, T., Yamanaka, I., Yano, R., Yasunishi, A.,
Yokota, T., Yoshida, K., Yoshiki, A., Yoshino, M., Muramatsu, M. and
Hayashizaki, Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: genome-res@gsc.riken.jp, URL:http://genome.gsc.riken.jp/Carninci,P., Nishiyama,Y., Westover,A., Itoh,M., Nagaoka,S., Sasaki,N., Okazaki,Y., Muramateu,M. and Hayashizaki,Y. Thermostabilization and thermoactivation of thermolabile enzymes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan
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Unpublished (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               further details
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Fax: 81-45-503-9216
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                                                                                                     Similarity
                                                                                 Conservative
                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone_lib="RIKEN full-length enriched, 10 days neonate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /mol_type="mRNA"
/strain="C57BL/6J"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 dev_stage="10 days neonate"
| lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tissue_type="cerebellum"
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                                                                                                     87.6%;
                                                                              <u>,</u>
                                                                                                     Score 18.4; DB 7;
Pred. No. 6.8e+02;
                                                                                                   6.8e+02;
                                                                                                                             Length 291;
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AUTHORS
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AUTHORS
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CR538057
LOCUS
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ORGANISM
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DA514546
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 5' sequence of the clone insert Clone from S. Wiemann,
Molecular Genome Analysis, German Cancer Research Center (DKFZ);
Email s. wiemann@dkfz-heidelberg.de; sequenced by GBF (National
Research Centre for Biotechnology Ltd., Braunschweig/Germany)
within the cDNA sequencing consortium of the German Genome Project.
This clone (DKFZp459A2414) is available at the RZDD in Barlin.
Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de Further
information about the clone and the sequencing project is available
at http://mips.gsf.de/projects/cdna/.
                                                                                                                                                                                                                                  sequence.
DA514546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19;
                 Hominidae; Homo.

1 (bases 1 to 546)

Kimura, K., Wakamatsu, A., Su
Yamashita, R., Yamamoto, J.,
                                                                                        Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                  2 AGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 (bases 1 to 534)
Bloecker, H., Boecher, M., Brandt, P., Mewes, H.W., Weil, B., Amid, C.
Osanger, A., Fobo, G., Han, M. and Wiemann, S.
Pongo pygmaeus mRNA (Bloecker, H., Boecher, M., Brandt, P., et al.)
Unpublished (2004)
                                                                                                                                                                                           DA514546.1
EST.
                                                                                                                                                                                                                                                                        DA514546 FEBRA2 Homo sapiens cDNA clone FEBRA2002360 5', mRNA
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Mammalia; Eutheria;
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                                                                                                                                                                  Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pongo pygmaeus (orangutan)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
Sugiyama, T., Saito, K., Isono, Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="DKFZp459A2414"
/tissue_type="cortex"
/dev_stage="adult"
/lab_host="DH10B"
/clone_lib="459 (synonym: pcorl)"
/note="Vector: pSportl_Sfi; Site_1: SfilA; Site_2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Pongo pygmaeus"
/mol_type="mRNA"
/db_xref="taxon:9600"
                                                                                                                                                                                                              GI:80864312
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 18.4; DB 8;
Pred. No. 7.4e+02;
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             Suzuki,Y., Ota,T., Nishikawa,T., Sekine,M., Tsuritani,K., Wakag
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    Wakaguri, H.,
Kushida, N.,
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RESULT 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         220
                                                                                                                                                                                  Hominidae; Homo.

1 (bases 1 to 549)

1 (bases 1 to 549)

Kimura, K., Wakamateu, A., Sekine, M., Tsuritani, K., Wakaguri, H., Yamashita, R., Yamamoto, J., Sekine, M., Tsuritani, K., Wakaguri, H., Yamashita, R., Yamamoto, K., Isono, Y., Irie, R., Kushida, N., Yamashita, S., Sujiyama, T., Saito, K., Isono, Y., Trie, R., Kushida, N., Yokoi, T., Kondo, H., Wagatsuma, M., Yonoyama, T., Otsuka, R., Kanda, K., Yokoi, T., Kondo, H., Wagatsuma, M., Murakawa, K., Ishida, S., Ishibashi, T., Takahashi-Fujii, A., Murakawa, K., Ishida, S., Ishibashi, T., Takahashi-Fujii, A., Murakawa, K., Ishida, S., Ishibashi, T., Takahashi-Fujii, A., Sigai, K., Kikuchi, H., Nakai, K., Isogai, T. and Sugano, S. Diversification of Transeriptional Modulation: Large-scale Identification and Characterization of Putative Alternative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CAGGACACAGTGGCTTTTGA 20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: flj-cdna@nifty.com

Bmail: flj-cdna@nifty.com

NEDO human cDNA project (New Energy and Industrial Technology

Developmental Organization, Japan); cDNA library construction:

Helix Research Institute (HRI); 5'-end one pass sequencing: HRI,

Research Association for Biotechnology (RAB) and Biotechnology

Center, National Institute of Technology and Evaluation; 3'-end one

pass sequencing: RAB.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DA722798 NT2RI3 Homo sapiens cDNA clone NT2RI3003688 5', mRNA
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Fax: 81-438-52-3986
                           FLJ Project (HRI Team)
Helix Research Institute
                                                                                                                                  Promoters of Human Genes
Genome Res. 16 (1), 55-65 (2006)
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
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2-6-7 Kazusa-Kamatari,
                                                                             Contact: Takao Isogai
                                                                                                               16344560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="FEBRA2002360"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /tissue_type="brain"
/dev_stage="fetal"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'note="Vector: pME18SFL3"
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                                                                                                                                                                                    Bmail: flj-cdna@nifty.com
NEDO human cDNA project (New Energy and Industrial Technology
NEDO human cDNA project (New Energy and Industrial Technology
Developmental Organization, Japan); cDNA library construction:
Helix Research Institute (HRI); 5'-end one pass sequencing: HRI,
Research Association for Biotechnology (RAB) and Biotechnology
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pass sequencing: RAB.
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2-6-7 Kazusa-Kamatari, Kisarazu, Chiba,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tel: 81-438-52-3975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FLJ Project (HRI Team)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Contact: Takao Isogai
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fax: 81-438-52-3986
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/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
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Contact. "---".
                                                                                                                                                                                                        Konno, H., Fukunishi, Y., Shibata, K., Itoh, M., Carninci, P., Sugahara, Y. and Hayashizaki, Y.

Sugahara, Y. and Hayashizaki, Y.

Computer-based methods for the mouse full-length cDNA

Computer-based methods for the mouse full-length cDNA

encyclopedia: real-time sequence clustering for construction of a

nonredundant cDNA library. Genome Res. . 11 (2), 281-289 (2001)

Kondo, S., Shinagawa, A., Saito, T., Kiyosawa, H., Yamanaka, I.,

Aizawa, K., Pukuda, S., Hara, A., Itoh, M., Kawai, J., Shibata, K. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: genome-res@gsc.riken.jp, URL:http://genome.gsc.riken.jp/Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K., Itch,M., Konno,H., Okazaki,Y., Muramateu,M. and Hayashizaki,Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes. Genome Res. 10 (10), 1617-1630 (2000) wagi,K., Fujiwake,S., Inoue,K., Togawa,Y., Izawa,M., Ohara,E., Watshiki,M., Yoneda,Y., Ishikawa,T., Ozawa,K., Tanaka,T., Matsuura,S., Kawai,J., Okazaki,Y., Muramatsu,M., Inoue,Y., Kira,A. and Hayashizaki,Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan
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Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Mus.
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                                                             further details
                                                                                       Computational Analysis of Full-Length Mouse cDNAs Compared with Human Genome Sequences. Mamm. Genome. 12, 673-677 (2001)
Please visit our web site (http://genome.gsc.riken.go.jp) for
                                                                                                                                                                                        Hayashizaki,Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Yoshihide Hayashizaki
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                                tissues.
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/cell_line="SK-N-MC"
/clone_lib="SKNC2"
/note="Vector: pME18SFL3"
Location/Qualifiers
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Pred. No. 7.5e+02;
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d, 10 days neonate
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Zea mays
                                                                                                                                                                                       Construction, Sequencing of the B73 Maize Genome Unpublished (2005)
                                                                                                                                                                                                                                                                                                                                                                  survey sequence.
CZ303586
CZ303586.1 GI:6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CAGGACACAGTGGCTTTTGA
                                                                                     190 Frelinghuysen Road,
Tel: 732 445 3801
Fax: 732 445 5735
                                                                                                                                                                                                                                                 1 (bases 1 to 654)
Bharti, A.K., Nelson
                                                                                                                                                                                                                                                                           Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD clade; Panicoideae; Andropogoneae; Zea.
                                                                                                                                                                                                                                                                                                                                                                                                              CZ303586 654
ZMMBF0080F02r ZMMBF Zea mays
                                                                                                                                               Dr.Joachim Messing's lab
The Plant Genome Initiative
                                                                                                                                                                            Contact: Bharti, A.K.
                                                                                                                                                                                                                                   and Messing, J.
                                                                                                                                   University
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                                          primer: Fos R
ss: fosmid ends
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nilarity 95.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bharti@waksman.rutgers.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="Site 1: Sall; Site 2: BamHI; cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Rik
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory in
RIKEN. Division of Experimental Animal Research in Riken
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/organism="Zea mays"
                           Location/Qualifiers
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'lab_host="DH10B"
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strain="C57BL/6J"
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                                                                                                                                                                                                                                                 Nelson, A.B.,
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Pred. No. 7.6e+02,
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                                                                                                                  Piscataway, NJ
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3', genomic
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                                                        720 bp CD353955 720 bp UI-M-GM0-cga-j-04-0-UI.rl NIH BMP IMAGE:30360123 5', mRNA sequence.
                                                                                                                                                                                                         1 CAGGACACAGTGGCTTTTGA 20
                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: tshini@genes.nig.ac.jp
When you want to obtain this EST clone, please send an e-mail to
Nori Satoh (satoh@ascidian.zool.kyoto-u.ac.jp) and its cc to Yuta
Satou (yutaka@ascidian.zool.kyoto-u.ac.jp).
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Center For Genetic Resource Information
National Institute of Genetics
1111 Yata, Mishima, Shizuoka 411-8540, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gyoja, R., Satou, Y. and Satoh, N. Expressed genes in Molgula tectiformis Unpublished (2005)
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CD353955
CD353955.1 GI:31146456
EST.
Mus musculus (house mous
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CJ337277.1 GI:67744326
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 musculus (house mouse)
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                                                                                                                                                                                                                                                                                                                    /tissue_type="whole animal"
/dev_stage="embryo just before hatching"
/clone_lib="Molgula tectiformis unpublished cDNA library"
                                                                                                                                                                                                                                                                                                                                                                   /organism="Molgula tectiformis"
/mal_type="mRNA"
/db_xref="taxon:30286"
/clone="mtbh004d21"
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/cultivar="B73"
/db_xref="taxon:4577"
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'lab_host="EPI100-T1"
                                                                                                                                                                                                                                                        87.6%;
95.0%;
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95.0%;
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Pred. No. 7.7e+02;
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Pred. No. 7.
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NIH_BMAP_GM0 Mus musculus
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                                                                                                                                                                                                                                                                       Length 660;
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RESULT 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19;
Hominidae; Pan.

1 (bases 1 to 2148)

1 (bases 1, Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Todd, M.A., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J.,
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Tissue Procurement: Dr. Jim Lin, University of Iowa
CDNA Library preparation: Dr. M. Bento Soares, University of Iowa
CDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: Distribution information can be found at
http://genome.uiowa.edu/distribution/mousefl.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 (bases 1 to 720)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eut
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus
                                                                                                                                                                                                                                                                                                            Pan troglodytes (chimpanzee)
Pan troglodytes
                                                                                                                                                                                                                                                                                                                                                                                                                                              AY406159.1 GI:39762133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pan troglodytes CDH8 gene, VIRTUAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AY406159
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (1999)
                                                                                                                                                                                                                  Eukaryota; Netazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Euarchontoglires; Primates; Cata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AY406159
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This clone was contributed by the Brain Molecular Anatomy Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGACACAGAGGCTTTTGAC 514
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/dev stage="1,5 and 15 days newborn"
/dev stage="1,5 and 15 days newborn"
/lab host="DH10B (T1 phage resistant)"
/clone_lb="NHH BMAP GM0"
/clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       I adaptor, digested with NotI and then cloned directionally into pYX-Asc vector. The library tag sequence located between the Not I site and the polyA tail is CGAACTGAAT. This library was created for the University Iowa Brain Anatomy Project (BMAP): 'Gene Discovery in the Developing Mouse Nervous System', supported by National Institute of Mental Health (NIMH), Hemin Chin, Ph.D., program coordinator."
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/strain="C57BL/6"
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'clone="IMAGE:30360123"
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95.0%;
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Pred. No. 7.8e+02;
0; Mismatches 1
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Catarrhini;
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genomic survey sequence.
AY406158
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Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A. Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M. Direct Submission
Submitted (16-NOV-2003) Celera Genomics, 45 West Gude Drive, Rockville, MD 20850, USA
This sequence was made by sequencing genomic exons and order than beginning the sequence was made by sequencing genomic exons and order than beginning the sequence was made by sequencing genomic exons and order than beginning the sequence was made by sequencing genomic exons and order than the sequence was made by sequencing genomic exons and order than the sequence was made by sequencing genomic exons and order than the sequence was made by sequencing genomic exons and order than the sequence was made by sequencing genomic exons and order than the sequence was made by sequencing genomic exons and order than the sequence was made by sequencing genomic exons and order than the sequence was made by sequencing genomic exons and order than the sequence was made by sequencing genomic exons and order than the sequence was made by sequencing genomic exons and order than the sequence was made by sequencing genomic exons and order than the sequence was made by sequence was made was made by sequence was made by sequence was made by sequence 
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Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M.
Inferring nonneutral evolution from human-chimp-mouse orthologous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N
                                                                                                                                                                                                                Direct Submission
Submitted (16-NOV-2003) Celera Genomics,
Rockville, MD 20850, USA
                                                                                                                                                                                                                                                                                Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M.
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Science 302 (5652), 1960-1963 (2003)
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Science 30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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Similarity 95.0%;
19; Conservative
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                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 2400)
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based on alignment
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                                    /organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
/gene="CDH8"
                                                                                                                        1. .2400
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/db_xref="taxon:9598"
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VIRTUAL
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1;
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                                                                                                                                                                                                                                                                                                                                                    Kejariwal, A.,
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                                                                    sequence.
AK139334
AK139334.1 GI:74228151
HTC; CAP trapper.
Mus musculus (house mou
                                                                                                              AK139334 2711 bp mRNA linear HTC 21-SEP-200 Mus musculus 10 days neonate cortex cDNA, RIKEN full-length enriched library, clone:A830013L24 product:cadherin 8, full insert
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Clark, A.G., Glanowski, S., Nielson, R., Thomas, P., Kejariwal, A., Todd, M.A., Tanenbaum, D.M., Civello, D.R., Lu, F., Murphy, B., Ferriera, S., Wang, G., Zheng, X.H., White, T.J., Sninsky, J.J., Adams, M.D. and Cargill, M.
Direct Submission
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Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Mus.
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Mus musculus CDH8 gene,
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Science 302 (5652), 1960-1963 (2003)
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AY406160
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/mol_type="genomic DNA"
/db_xref="taxon:10090"
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/locus_tag="HCM2464"
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Pred. No. 9.2e+02;
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Pred. No. 9.2e+02;
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Okazaki, Y., Furuno, M., Kasukawa, T., Adachi, J., Bono, H., Kondo, S., Nikaido, I., Osato, N., Saito, R., Suzuki, H., Yamanaka, I., Kiyosawa, H., Yagi, K., Tomaru, Y., Hasegawa, Y., Nogami, A., Schonbach, C., Gojobori, T., Baldarelli, R., Hill, D.P., Bult, C., Hume, D.A., Quackenbush, J., Schriml, L.M., Kanapin, A., Matsuda, H., Batalov, S., Quackenbush, J., Schriml, L.M., Kanapin, A., Matsuda, H., Batalov, S., Corbani, L.E., Cousins, S., Dalla, B., Dragani, T.A., Chothia, C., Corbani, L.E., Cougins, S., Dalla, B., Dragani, T.A., Fletcher, C.F., Forrest, A., Frazer, K.S., Gaasterland, T., Gariboldi, M., Gissi, C., Godzik, A., Gough, J., Grimmond, S., Gustincich, S., Hirokawa, N., Jackson, I.J., Jarvis, B.D., Kanai, A., Kawaji, H., Kawasawa, Y., Kedzierski, R.M., King, B.L., Konagaya, A., Kurochkin, I.V., Lee, Y., Lenhard, B., Lyons, P.A., Magdott, D.R., Nunata, K., Okido, T., Pavan, W.J., Pertea, G., Pesole, G., Petrovsky, N., Pillai, R., Pontius, J. U., Qi, D., Ramachandran, S., Petrovsky, N., Pillai, R., Pontius, J. U., Qi, D., Ramachandran, S., Rawasi, T., Reed, J.C., Reed, D.J., Reid, J., Ring, B.Z., Ringwald, M., Sandelin, A., Schneider, C., Sample, C.A., Setou, M., Shimada, K., Sultana, R., Takenaka, Y., Taylor, M.S., Teasdale, R.D., Tomita, M., Verardo, R., Wagner, L., Wahlestedt, C., Wang, Y., Watanabe, Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kawai, J., Shinagawa, A., Shibata, K., Yoshino, M., Itoh, M., Ishii, Y., Arakawa, T., Hara, A., Fukunishi, Y., Konno, H., Adachi, J., Pukuda, S., Alzawa, K., Izawa, M., Nishi, K., Kiyosawa, H., Kondo, S., Yamanaka, I., Salto, T., Okazaki, Y., Gojobori, T., Bono, H., Kasukawa, T., Saito, R., Kadota, K., Matsuda, H., Ashburner, M., Batalov, S., Casavant, T., Fleischmann, W., Gaasterland, T., Gissi, C., King, B., Kochiwa, H., Kuehl, P., Lewis, S., Matsuo, Y., Nikaido, I., Pesole, G., Quackenbush, J., Schriml, L.M., Staubli, F., Suzuki, R., Tomita, M., Wagner, L., Washio, T., Sakai, K., Okido, T., Furumo, M., Aono, H., Baldarelli, R., Barsh, G., Blake, J., Boffelli, D., Bojunga, N., Carninci, P., de Bonaldo, M.F., Brownstein, M.J., Bult, C., Fletcher, C., Fujita, M., Gariboldi, M., Gusfincich, S., Hill, D., Hofmann, M., Hume, D.A., Kamiya, M., Lee, N.H., Lyons, P., Hofmann, M., Ringyald, M., Rodriguez, I., Sakamoto, N., Sasaki, H., Sato, K., Schonbach, C., Seya, T., Shibata, Y., Storch, K.F., Suzuki, H., and Haysehiz, K., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S., and Haysehiz, Y. Oshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S., and Haysehiz, Y.
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High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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CONSRIM TITLE JOURNAL PUBMED REFERENCE AUTHORS

16141073

Wallestedt,C.
Wallestedt,C.
RIKEN Genome Exploration Research Group
Antisense transcription in the mammalian
Antisense 109 (5740), 1564-1566 (2005)

Katayama,S., Tomaru,Y., Kasukawa,T., Waki,K., Nakanishi,M., Nakamara,M., Nishida,H., Yap,C.C., Suzuki,M., Kawai,J., Suzuki,H. Carminci,P., Hayashizaki,Y., Mells,C., Frith,M., Ravasi,T., Pang,K.C., Hallinan,J., Mattick,J., Hume,D.A., Lipovich,L., Batalov,S., Engstrom,P.G., Mizuno,Y., Faghihi,M.A., Sandelin,A., Chalk,A.M., Mottagui-Tabar,S., Liang,Z., Lenhard,B. and

Suzuki,H.,

8 (bases 1 to 2711)
10 (bases 1 to 2711)
11 (bases 1 to 2711)
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                                                                                                                                                                                                                             Maeda, M., Oyana, R., Ravasi, T., Lenhard, B., Welle, C., Kodzius, R., Shimokawa, K., Bajic, V.B., Brenner, S.E., Batalov, S., Forreet, A.R., Eavolan, M., Davis, M.J., Wilming, L.G., Aldinis, V., Allen, J.E., Rambesi-Implombato, A., Apweller, R., Aturaliya, R.N., Bailey, T.L., Bansal, M., Baxter, L., Beisel, K.W., Bersand, T., Bono, H., Chalk, A.M., Chiu, K.P., Choudhary, V., Christoffels, A., Clutterbuck, D.R., Crowe, M.L., Dalla, E., Dalrymple, B.P., de Bono, B., Della Gatta, G., di Bernardo, D., Down, T., Engstrom, P., Paglolini, M., Faulkner, G., Fletcher, C.F., Fukushima, T., Furuno, M., Futaki, S., Gariboldi, M., Gustincich, S., Harbers, M., Hayashi, Y., Hensch, T.K., Hirokawa, N., Georgii-Hemming, P., Gingeras, T.R., Gojobori, T., Green, R.E., M., Gustincich, S., Harbers, M., Hayashi, Y., Hensch, T.K., Hirokawa, T., Jakt, M., Kanapin, A., Katoh, M., Kawasawa, Y., Kelso, J., Kitamo, H., Kollias, G., Krishnan, S.P., Kruger, A., Kummerfeld, S.K., Kurochkin, I. V., Lareau, L.F., Lazarevic, D., Lipovich, L., Liu, J., Liuni, S., McMallian, S., Madan Babu, M., Madera, M., Marchionni, L., Martis, K., Mottagui-Tabar, S., Milder, N., Nakano, N., Nakauchi, H., Mg, P., Nilsson, R., Nishiguchi, S., Nishikawa, S., Nori, F., Ohara, O., Okazaki, Y., O'Lando, V., Pang, K.C., Pavan, W.J., Reid, J.F., Ring, B. Z., Ringwald, M., Rost, B., Ruan, Y., Shimada, H., Shimada, K., Sultana, R., Schneider, C., Schombach, C., Sekiguchi, K., Semple, C.A., Seno, S., Sessa, L., Sheng, S., Stupka, E., Sugiura, K., Sultana, R., Van Nimwegen, E., Verardo, R., Wei, C.L., Yagi, K., Yamaoja, K., Tan, S.L., Tang, S., Taylor, M.S., Taylor, M.S., Taylor, M.S., Teinhard, D., Okamaka, D., Tomaru, Y., Pukuda, S., Kanamori-Kateayama, M., Kato, T., Kawaji, H., Kawagashira, N., Kawashima, T., Kojima, M., Kato, T., Maki, K., M
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Maeda, N., Oyama, R., Ravasi, T., Lenhard, B.,
                                                                                                                          The transcriptional landscape of the mammalian genome Science 309 (5740), 1559-1563 (2005)
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Submitted (30-MAR-2004) Yoshihide Hayashizaki, The Institute of Submitted (30-MAR-2004) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa, 230-0045, Japan (E-mail:genome-res@gsc.riken.jp, KRI:http://genome.gsc.riken.jp/, Tel:81-45-503-9222,
                                                                                                                                                                                                                                                                                                                                                                                                                                                  AK044046 3161 bp mRNA linear HTC 02-SEP-200 Mus musculus 10 days neonate cortex cDNA, RIKEN full-length enriched library, clone:A830083P13 product:cadherin 8, full insert
                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                           sequence.
AK044046
AK044046.1 GI:26336131
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Please visit our web site for further details.
URL:http://genome.gsc.riken.jp/.
URL:http://fantom.gsc.riken.jp/.
Location/Qualifiers
   Carninci, P. and High-efficiency
                                                                                                                                                                                                                                                        HTC; CAP trapper.
Mus musculus (house mouse)
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Genomic Sciences Center and Genome Science Laboratory in RIKEN.
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                                                                                                                                                                                                                                Mus musculus
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GVIRLRKPLDFETKKSYTLKVEAANIHIDSRFSSRGPFKDTATVKIVVEDADEPPVFS
SPTYLLEVHENAALNSVIGQVTARDPDITSSPIRFSIDRHTDLBRQFNINADDGKITL
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KPGQVIQTVSAMDKDDPKNGHFFLYSLLPEMVNNPNFTIKKNEDNSLSILAKHNGFNR
QKQEVYLLPIVISDSGNPPL8STSTLTIRVCGCSNDGVVQSCNVBAYVLPIGLSMGAL
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BAGGTIFQINDITGDIHAIKRLDREBKABTTLTAQADVDFETNKEUBPPSSFIIKVGDI
NDNAPEFLNGPYHATVDEMSILGTSVLNVTATDADDPVGNSAKLVYSILBGDPYSFI
EPETAIIKTALPNMDREAKEEYLVVIQAKDMGGHSGGLSGTTTLTVTLTDVNDNPPKF
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/proteIn_id="BAB23961.1"
/db_xreff="G1:74228152"
/translation="MPERLAETLMDLWTPLIILWITLPSCVYTAPMNQAHVLTTGSPL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Shibata, K., Itoh, M., Aizawa, K., Nagaoka, S., Sasaki, N., Carninci, P., Konno, H., Akiyama, J., Nishi, K., Kitsunai, T., Tashiro, H., Itoh, M., Sumi, N., Ishii, Y., Nakamura, S., Hazama, M., Nishine, T., Harada, A., Yamamoto, R., Matsumoto, H., Sakaguchi, S., Ikegami, T., Kashiwagi, K., Fujiwake, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, B., Watahiki, M., Yoneda, Y., Ishikawa, T., Ozawa, K., Tanaka, T., Matsuura, S., Kawai, J., Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A., and Haysahizaki, Y., RIKEN integrated sequence analysis (RISA) system-384-format sequencing pipeline with 384 multicapillary sequencer
                                                                                                                                                                                                                                                                                                                                                                              Submitted (16-JUL-2001) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), RIKEN Yokohama Institute, 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, 230-0045, Japan (E-mail:genome-res@gsc.riken.jp, URL:http://genome.ssc.riken.jp/, Tel:81-45-503-9222, Fax:81-45-503-9216)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The FANTOM Consortium, Riken Genome Exploration Research Group Genome Science Group (Genome Network Project Core Group).
The Transcriptional Landscape of the Mammalian Genome Science 309, 1559-1563 (2005)
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Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs
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11076861
                                                                                                                                                  prepare mouse tissues.
Please visit our web site for further details
                                                                                                                                                                                                                                                                Encyclopedia Project of Genome Exploration Research Group Genomic Sciences Center and Genome Science Laboratory in F
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                                                                       URL:http://genome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/.
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                                                                                                                                                                                                                                                                                                                                           cDNA library was prepared and sequenced in Mouse Genome
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                                           Location/Qualifiers
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AK083092
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                                                         Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K., Itoh,M., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genome Res. 10 (10), 1617-1630 (2000)
                                                                                                                                                                                                              Carninci, P. and Hayashizaki, Y.
High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
                                                                                                                                                                                                                                                                                                                                                                        HTC; CAP trapper.
Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AK083092 3592 bp mRNA linear HTC 02-SEP-2005 Mus musculus adult male hippocampus cDNA, RIKEN full-length enriched library, clone:C630002D14 product:cadherin 8, full insert
Shibata, K.,
                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
                                                                                                                                                                                                                                                                                                                                                               Mus musculus
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GVIRLEKELDFETKKSYTLKVBAANIHIDFFSSRGPFKDTATVKIVVBDADEFVFS
SPTYLLEVHENAALNSYIGQVTARDBDITSSFIRFSIDRHTDLERQFNINADDGKITIS
ATPLDRELSVMHNITIIATEIRNHSQISRVPVAIKVLDVNDNAPEFASEYEAFLCENG
KPGRVIQTVSANDKDDFKNGHFFLYSLLFEMVNNPNTTIKKNBUSLSILAKHNGFNR
QKQEVYLLFUISBSGNBFPLSSTSTLTIRVGCGNDGVVGSCNVERYVLFIGLSMGAL
IAILACIILLLVIVVLFVTLRRHKNBFLIIKDBBVRENIIRVDDEGGGEEDTEAFDI
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/db_xref="G:26356132"
/db_xref="G:26356132"
/tranblation="mperiaktimolwtpliiiwitlpscvytapmnoahvlttgspl
flsrogsedmrilsrskrgmvwnomfvleefsgpepiivgrlhtdldpsskkikyiisg
edagtiiqinditgdihaikrldreekabytltyapavdpetnkredeppssfiikvdpi
ndnabeflngsyhatvpemsiidtsvinvvtatdadppygnsaklvysitledgpyfsi
BPETAIIKTALPNMDREAKBEYLVVIQAKDMGGHSGGLSGTTTLTVTLTDVNDNPPKF
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3132. .3137
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/db_xref="taxon:10090"
/clone="A830083P13"
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/strain="C57BL/6J"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'note="putative"
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3B|NM_007667, evidence: BLASTN, 99%, match=2357)
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/clone_lib="RIKEN full-length enriched mouse cDNA library"
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Itoh, M.,
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95.0%;
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Aizawa, K.,
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Pred. No. 9.6e+02;
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Nagaoka, S.,
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Sasaki, N.,
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  Carninci, P.,
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Adachi, J., Aizawa, K., Akimura, T., Arakawa, T., Bono, H., Carninci, P., Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hashizume, W., Hayashida, K., Hayatsu, N., Hiramcho, K., Hiramcha, T., Hirozane, T., Hori, F., Imotani, K., Ishii, Y., Itoh, M., Kagawa, I., Kasukawa, T., Katoh, H., Kawai, J., Kojima, Y., Kondo, S., Konno, H., Kouda, M., Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Murata, M., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Ohsato, N., Nakamura, M., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Ohsato, N., Okazaki, Y., Saito, R., Saitoh, H., Sakai, C., Sakai, K., Sakazume, N., Sano, H., Sasaki, D., Shibata, K., Shinagawa, A., Shiraki, T., Sogabe, Y., Tagama, M., Tagawa, A., Takahashi, F., Takaka-Akahira, S., Takeda, Y., Tanaka, T., Tomaru, A., Toya, T., Yasunishi, A., Muramatsu, M. and Hayashizaki, Y. Sunishi, A., Toya, T., Yasunishi, A., Direct Submission
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa, 230-0045, Japan (E-mail:genome-res@gsc.riken.jp, URL:http://genome-gsc.riken.jp/, Tel:81-45-503-9222, Fax:81-45-503-9216)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Division of Experimental Animal Research in Riken contributed to prepare mouse tissues. Please visit our web site for further details. URL:http://genome.gsc.riken.jp/URL:http://fantom.gsc.riken.jp/.
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(Genome Network Core Team) and the FANTOM Consortium.
Antisense Transcription in the Mammalian Transcriptome
Science 309, 1564-1566 (2005)
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Analysis of the mouse transcriptome based of 60,770 full-length cDNAs
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Encyclopedia Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory in RIKEN.
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558._.2708
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/strain="057BL/6J"
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Nature
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K., Itoh,M., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes Genome Res. 10 (10), 1617-1630 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Carninci,P. and Hayashizaki,Y.
High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AK086711 3793 bp mRNA linear HTC 02-SEP-200: Mus musculus 15 days embryo head cDNA, RIKEN full-length enriched library, clone:D930046N17 product:cadherin 8, full insert sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi; Muroidea; Muridae; Murinae; Mus.
                                                                                       Functional annotation of a
                                                                                                                                     FANTOM Consortium.
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HTC; CAP trapper.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus musculus (house mouse)
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                                                                                                                                                                           RIKEN Genome
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IAILACIILLLVIVVLFVTLRRHKNEPLIIKDDEDVRENIIRYDDEGGGEEDTEAFDI
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GB|NM_007667, evidence: BLASTN, 99%, match=2320)
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95.0%;
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Pred. No. 9.8e
0; Mismatches
                                                                                   full-length mouse cDNA collection
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9.8e+02;
ches 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (16-APR-2002) Yoshihide Hayashizaki, The Institute of physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa, 230-0045, Japan (E-mail:genome-res@gsc.riken.jp, URL:http://genome-gsc.riken.jp/, Tel:81-45-503-9222,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hori, F., Imotani, K., Ishii, Y., Itoh, M., Kagawa, I., Kasukawa, T., Katoh, H., Kawai, J., Kojima, Y., Kondo, S., Konno, H., Kouda, M., Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Murata, M., Nakamura, M., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Ohsato, N., Okazaki, Y., Saito, R., Saitoh, H., Sakai, C., Sakai, K., Sakazume, N., Okazaki, D., Shibata, K., Shinagawa, A., Shiraki, T., Sogabe, Y., Tagama, M., Tagawa, A., Takahashi, F., Takaku-Akahira, S., Takada, Y., Tanaka, T., Tomaru, A., Toya, T., Yasunishi, A., Muramatsu, M. and Hayashizaki, Y.
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Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hashizume, W.,
Hayashida, K., Hayatsu, N., Hiramoto, K., Hiraka, T., Hirozz
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The Transcriptional Landscape of the Mammalian Genome Science 309, 1559-1563 (2005)
8 (bases 1 to 3793)
8 (bases 1 to 3793)
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Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             URL:http://genome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              prepare mouse tissues.
Please visit our web site for further details.
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/mol_type="mRNA"

/strain="C57BL/6J"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tissue type="head"
clone_Tib="RIKEN full-length enriched mouse cDNA library"
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db_xref="taxon:1000"
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JOURNAL REFERENCE

TITLE

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AUTHORS

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SOURCE ORGANISM VERSION KEYWORDS

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BG022939/c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Clone distribution: Xenopus clones from this library are available through the I.M.A.G.E. Consortium/LLNL at: info@image.llnl.gov Trace considered overall poor quality
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Sandy Clifton, Ph.D.
WashU Xenopus EST project, 1999
Washington University School of Medicine
4444 Porest Park Parkway, Box 8501, St. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Clifton,S., Johnson,S.L., Blumberg,B., Song,J., Hillier,L., Pape,D., Martin,J., Wylie,T., Underwood,K., Theising,B., Bo Person,B., Gibbons,M., Harvey,N., Ritter,E., Jackson,Y., Mc Waterston,R. and Wilson,R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BG022939 337 bp mRNA linear EST 24-JAN-2001 daa81d07.x1 Cho Li treated gastrula Xenopus laevis cDNA clone IMAGE:4083876 3' similar to TR:Q92688 Q92688 PHAPI2A PROTEIN ;,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: est@watson.wustl.edu
Library constructed by C. Hashimoto, Ph.D. in the laboratory
Cho, Ph.D. DNA Sequencing by: Washington University Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequencing Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Contact: Sandy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WashU Xenopus EST project, 1999
Unpublished (1999)
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1 (bases 1 to 337)
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Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Xenopus laevis (African clawed frog)
Xenopus laevis
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CAGGACACAGTGGCTTTTGAC 21
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h quality sequence stop: 1.
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                                                             Conservative
                                                                                                                                                                     /clone_lib="Cho Li treated gastrula"
/note="Vector: pBluescript KS+; Site 1: NotI; Site 2:
/note="Vector: pBluescript KS+; Site 1: NotI; Site 2:
ECORI; 1st strand was primed with a Not I - oligo(dT)
primer, double-stranded cDNA was cloned into the Not I and
ECO RI sites of pBluescript KS+. Library was constructed
by C. Hashimoto, Ph.D., in the laboratory of K. Cho, Ph.D.
(Department of Developmental and Cell Biology, University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IAILACIILLLVIVVLFVTLRRHKNEPLIIKDDEDLRENIIRYDDEGGGBEDTEAFDI
ATLQNPDGINGFLPRWGLPTQRWEERNAIQTGCV"
                                                                                                                                                                                                                                                                                                           /clone="IMAGE:4083876"
/tissue_type="gastrula, Li-treated"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                 organism="Xenopus laevis"
/mol_type="mRNA"
/db_xref="taxon:8355"
                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                       California, Irvine)."
                                                                           84.8%;
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95.0%;
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Pred. No. 9.8e+02;
                                                                             Score 17.8;
Pred. No. 1.
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                                                                                             Length 337;
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Local Similarity
                                                 CR555978 377 bp m
DKFZp4691192_r1 469 (synonym: pkid1)
DKFZp4691192_5', mRNA sequence.
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1 (bases 1 to 357)

1 (bases 1 to 357)

Dias Neto, B., Garcia Correa, R., Verjovski-Almeida, S., Briones, M.R., Dias Neto, B., Garcia Correa, R., Bordin, S., Costa, F.F., Nagai, M.A., da Silva, W. Jr., Zago, M.A., Bordin, S., Costa, F.F., Goldman, G.H., Carvalho, A.F., Matsukuma, A., Bala, G.S., Simpson, D.H., Brunstein, A., deOliveira, P.S., Bucher, P., Jongeneel, C.V., D'Hare, M.J., Soares, F., Brentani, R.R., Reis, L.F., de Souza, S.J. and
CR555978
CR555978.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
Rua Prof. Antonio Prudente 109, 4 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              High quality sequence stop: 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This sequence was derived from the FAPESP/LICR Human Cancer Genome Project. This entry can be seen in the following URL (http://www.ludwig.org.br/scripts/gethtml2.pl?tl=IL5&t2=IL5-IT0027-271100-285-d06&t3=2000-11-27&t4=1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tel: +55-11-2704922
Fax: +55-11-2707001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Simpson A.J.G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Proc. Natl. Acad. Sci. U.S.A. 97 (7), 3491-3496 (2000)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Email: asimpson@ludwig.org.br
                                                                                                                                                                                                                                                  CAGGACCCAGTGGCTTTTCAC
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                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone lib="IT0027"
/clone lib="TT0027"
/note="Organ: epid_tumor; Vector: puc18; Site 1: SmaI;
/note="Organ: epid_tumor; Vector: puc18; Site 1: SmaI;
/site 2: SmaI; A mini-library was made by clonning products
derived from ORESTES PCR (U.S. Letters Patent application
No. 196,716 - Ludwig Institute for Cancer Research)
profiles into the pUC 18 vector. Reverse transcription of
tissue mRNA and cDNA amplification were performed under
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  low stringency conditions."
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/mol_type="mRNA"
/db_xref="taxon:9606"
/dev_stage="Adult"
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Pred. No. 1.4e
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Okazaki, Y., Furuno, M., Kasukawa, T., Adachi, J., Bono, H., Kondo, S., Nikaido, I., Osato, N., Salto, R., Suzuki, H., Yamanaka, I., Kiyosawa, H., Yagi, K., Tomaru, Y., Hasegawa, Y., Nogami, A., Schonbach, C., Gojobori, T., Baldarelli, R., Hill, D.P., Bult, C., Hume, D.A., Quackenbush, J., Schriml, L.M., Kanapin, A., Matsuda, H., Batalov, S., Beisel, K.M., Blake, J.A., Bradt, D., Brusic, V., Chothia, C., Corbani, L.B., Cousins, S., Dalla, B., Dragani, T.A., Fletcher, C.F., Forrest, A., Frazer, K.S., Gaasterland, T., Gariboldi, M., Gissi, C., Godzik, A., Gough, J., Grimmond, S., Gustincich, S., Hirokawa, N., Jackson, I.J., Jarvis, B.D., Kanai, A., Kawaji, H., Kawasawa, Y., Kedzierski, R.M., King, B.L., Konagaya, A., Kurochkin, I.V., Lee, Y., Lenhard, B., Lyons, P.A., Maglott, D.R., Maltais, L., Marchionni, L., McKenzie, L., Miki, H., Nagashima, T., Numata, K., Okido, T., Pavan, W.J., Pertea, G., Pesole, G.,
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BY467982 RIKEN full-length enriched, melanocyte Mus musculus cDNA clone GZ70040C21 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi; Muroidea; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ingolstaedter Landstr.1, D-85764 Neuherberg, Germany
This is the 5' sequence of the clone insert Clone from S. Wiemann,
Molecular Genome Analysis, German Cancer Research Center (DKFZ);
Email s.wiemann@dkfz-heidelberg.de; sequenced by GBF (National
Research Centre for Biotechnology Ltd., Braunschweig/Germany)
within the cDNA sequencing consortium of the German Genome Project
This clone (DKFZp4691192) is available at the RZPD in Berlin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bloecker, H., Boecher, M., Brandt, P., Mewes, H.W., Weil, B., Osanger, A., Fobo, G., Han, M. and Wiemann, S. Pongo pygmaeus mRNA (Bloecker, H., Boecher, M., Brandt, P., Unpublished (2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             at http://mips.gsf.de/projects/cdna/.
    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Berlin-Charlottenburg, GERMANY, Email: clone@rzpd.de Further information about the clone and the sequencing project is available
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de Further
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: MIPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hominidae; Pongo.
1 (bases 1 to 377)
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/mol type="mRNA"
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/tissue_type="kidney"
/dey_stage="sdult"
/lab_host="pH108"
/clone_lib="469 (synonym: pkid1)"
/note="Vector: pSport1_Sfi; Site_1: Sf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GI:26802361
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90.5%;
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Pred. No. 1.
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1.4e+03;
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186

CATGICACAGIGGCITTIGAC 206

1 CAGGACACAGTGGCTTTTGAC 21

Matches Best Local

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Computer-based methods for the mouse full-length cDNA computer-based methods for the mouse full-length cDNA encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) consequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to
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Hirozane,T., Imotani,K., Ishii,Y., Itoh,M., Kawai,J., Konno,H.,
Miyazaki,A., Murata,M., Nakamura,M., Nomura,K., Numazaki,R.,
Ohno,M., Sakai,K., Sakazume,N., Sasaki,D., Sato,K., Shibata,K.,
Shiraki,T., Tagami,M., Waki,K., Watahiki,A., Muramatsu,M. and
Hayashizaki,Y. Direct Submission
Computational Analysis of Full-Length Mouse cDNAs Compared with
Human Genome Sequences Mamm. Genome 12, 673-677 (2001)
Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length CDNA libraries for rapid discovery of new
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The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Jaj
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Research Branch National Human Genome Reseach Institute, National
Institutes of Health (NIH) Building: 49, Room 4A82 49 Convent Dri
MSC 4472 Bethesda, Maryland U.S.A) whose assistance we gratefully
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    prepare mouse tissues.
Cells were provided by Drs. William J Pavan, Stacie Loftus, and
Denise Larson (Division of Intramural Research Genetic Disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              genes. Genome Res. 10 (10), 1617-1630 (2000)

RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer. Genome 10 (11), 1757-1771 (2000)
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Fax: 81-45-503-9216
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Contact: Yoshihide Hayashizaki
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   acknowledge.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Please visit our web site (http://genome.gsc.riken.go.jp) for
                                                                                                                                                                          /db_xref="taxon:10090"
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/strain="C57BL/6J"
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Score 17.8; DB 4
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AL785427 XGC-neurula Xenopus t
mRNA sequence.
AL785427
AL785427.2 GI:38308397
EST.
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              Xenopus tropicalis

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;

Xenopodinae; Xenopus; Silurana.

1 (bases 1 to 594)

Croning,M.D.R., Ashurst,J.L., Taylor,R., Zorn,A.M. and Rogers,J.

Sanger Xenopus tropicalis EST project 2001 (11_2003)

Unpublished (2003)

On Jun 25, 2002 this sequence version replaced gi:21571131.

Contact: Taylor R

Sanger Institute
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Email: trop@sanger.ac.uk
Sanger Xenopus tropicalis EST project 2001
TROPICALIS_SEQUENCE ID: TTbA075007.plkSP6
This sequence is from a Xenopus Gene Collection (XGC) library constructed by Nigel Garrett.
Seq primer: SP6.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
Xenopodinae; Xenopus; Silurana.
1 (bases 1 to 507)
Croning,M.D.R., Ashurst,J.L., Taylor,R., Garrett,N. and Rogers,J.
Sanger Xenopus tropicalis EST project 2001 (2004)
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Contact: Croning MDR
Sanger Institute
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CR429603.1 GI:48923012
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Cambridgeshire, CB10 1SA, UK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /dev_stage="tailbud (stage 28-30)"
/lab_host="Escherichia coli DH10B."
/clone_libe="XGC-tailbud"
/note="Vector: pCS107; Site_1: EcoRI; Site_2: NotI; cDNA
was oligo dT primed from 5ug of poly A+ RNA from tailbud.
EcoRI-NotI cut cDNA was then ligated into pCS107 with
EcoRI at the 5' end and NotI at the 3' end."
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/clone="TTbA075007"
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RESULT 26
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CDNA was oligo dT primed from Sug of poly A+ RNA from neu EcoRI-NotI cut cDNA was then ligated into pCS107 with Ecc 5, end and NotI at the 3, end.

Vector: pCS107; Site 1: EcoRI; Site 2: NotI Host: Escherichia coli DH10B

Sanger Xenopus tropicalis EST project 2001

TROPICALIS SEQUENCE ID: TNeu072e23.plcSP6

Sequencing primer: SP6.

Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                           On Jan 6, 2005 this sequence version replace other ESTs: JGI XZG15551.rev Contact: Lindquist, E.A., Richardson, P. DOE Joint Genome Institute 2800 Mitchell Drive, Walnut Creek, CA 94598, Tel: 925 296 5600 Fax: 925 296 5710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae; Kenopodinae; Xenopus; Silurana.

1 (bases 1 to 595)

Richardson, P., Lucas, S., Rokhsar, D., Detter, J.C., Ng, D.C., Brokstein, P. and Lindquist, E.A.

DOB Joint Genome Institute Xenopus tropicalis EST project
                                                                                                                                             Email: cdna@jgi.psf.org
Tissue Procurement: Richard M. Harland Laboratory, University of California, Berkeley: http://tropicalis.berkeley.edu/home cDNA Library Preparation: Richard M. Harland Laboratory, University of California, Berkeley
DNA Sequencing: DOE Joint Genome Institute: http://www.jgi.doe.gov Clone Distribution: I.M.A.G.E. Consortium/LLNL:
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JGI XZG15551.fwd NIH XGC tropGas7
IMAGE:7531609 5', mRNA sequence.
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indicates a forward sequencing read of the insert. It necessarily reflect the orientation of the insert. Plate: XZG 0161 row: n column: 23
                                                  Naming Conventions: EST name is generated by the concatenation of the JGI Clone Id and the direction of sequencing. The suffix '.fwd' indicates a forward sequencing read of the insert. It does not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xenopus tropicalis (western clawed frog) Xenopus tropicalis
                                                                                                                             http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (2004)
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/clone lib="XGC-neurula"
/clone lib="XGC-neurula"
/note="Vector: pCS107; Site_1: EcoRI; Site_2: NotI; cDNA
was oligo dT primed from 5ug of poly A+ RNA from neurula.
EcoRI-NotI cut cDNA was then ligated into pCS107 with
EcoRI at the 5' end and NotI at the 3' end."
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/mol type="mRNA"
/db xref="teaxon:8364"
/clone="TNeu072e23"
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                                                                                                                                                                                                                                                                                                                                                                      Submitted (06-JUN-2002) The Sanger Institute, 1 Campus, Hinxton, Cambridgeshire, CB10 1SA, UK. humquery@sanger.ac.uk Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes; Cyprinidae; Danio.

1 (bases 1 to 626)

1 (humphray, S.J., Huckle, E. and Hunt, S.E.
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                                               CAAGACACAGTGGCTTTTGTC
                                                                            CAGGACACAGTGGCTTTTGAC 21
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Location/Qualifiers
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                                                                                                         Conservative
                                                                                                                                                                                                                                                                                            details: http://www.sanger.ac.uk/Projects/D_rerio/
   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone lib="NIH_XGC_tropGas7"
/note="Vector: pCS108; Site 1: SalI; Site 2: NotI;
/note="Vector: pCS108; Site 1: SalI; Site 2: NotI;
/Gastrula library constructed by Russell B. Fletcher in R.
Harland's lab using poly A RNA and oligo dT primers
(Invitrogen Superscript Plasmid System for cDNA Synthesis
and Cloning). SalI (5' end) -NotI (3' end) cDNA was
inserted into vector pCS108
(http://mcb.berkeley.edu/labs/harland/pages/plasmids.html)
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/dev_stage="Gastrula (st. 10.5-12.5)"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="mRNA"
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/note="vector pIndigoBAC-536"
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Institute
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Venter, J.C.
Use of BAC End Sequences from CalTech Libraries for Sequence-Ready
Map Building
Unpublished (1997)
Other GSSs: CITBI-E1-2653J24.TF
Contact: Shaying Zhao, William Nierman, Mark Adams
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850
Tel: 301 838 0208
Tex: 301 838 0208
Xenopodinae; Xenopus; Silurana.

1 (bases 1 to 649)

Croning, M.D.R., Ashurst, J.L., Taylor, R., Zorn, A.M. and Rogers, J. Sanger Xenopus tropicalis EST project 2001 (11_2003)

Unpublished (2003)

On Nov 7, 2001 this sequence version replaced gi:16794540.

Contact: Huckle E
                                                                                                                                                              Xenopus tropicalis (western clawed frog)
Xenopus tropicalis
Eukaryota, Metazoa; Chordata; Craniata; Verrebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Clones are available from Research Genetics (info@resgen.com). BAC end search page: http://www.tigr.org/tdb/humgen/bac_end_search/bac_end_search.html. Seq primer: M13 Reverse Class: BAC ends.
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CITBI-E1-2653J24.TR CITBI-E1
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AL642415.2 GI:38221123
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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/clone_lib="CITBI-B1"
/note="Vector: pBeloBAC11; Site_1: EcoRI; Site_2: EcoRI;
CalTech Human BAC Library D"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /mol_type="genomic DNA"
/db_xref="taxon:9606"
/clone="2653J24"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               organism="Homo sapiens"
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Pred. No. 1.
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tropicalis cDNA clone
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2653J24,
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RESULT 30
CT346911/c
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                     Humphray, S.J., Plumb, R.W. and Durham, J.L.

Direct Submission

Submitted (01-NOV-2005) The Sanger Institute, Wellcome Trust Genome Submitted (01-NOV-2005) The Sanger Institute, Wellcome Trust Genome Campus, Hinxton, Cambridgeshire, CB10 1SA, UK. B-mail enquirles: humquery@sanger.ac.uk Unpublished

This sequence was generated from the T7 end of BAC 42B24. 42B24 is part of the CHORI-242 BAC Library created by P. de Jong. Further part of the CHORI-242 BAC Library created by F. de Jong. Further details: http://www.sanger.ac.uk/Projects/S_scrofa/.
                                          19;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This sequence is from a Xenopus Gene Collection (XGC) library constructed by Aaron M. Zorn.

CDNA was oligo dT primed from Sug of poly A+ RNA from neurula.

ECORI-NotI cut cDNA was then ligated into pCS107 with ECORI at the 5' end and NotI at the 3' end.

Vector: pCS107; Site 1: ECORI; Site_2: NotI

Host: Escherichia coli DH10B

Sanger Xenopus tropicalis EST project 2001

TROPICALIS SEQUENCE ID: TNeu025k14.plkSP6

Sequencing primer: SP6.
1 CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sus scrofa
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Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sus scrofa (pig)
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                                                                                                                                              /organism="Sus scrofa"
/mol_type="genomic DNA"
/db xref="taxon:9823"
/clone="CH242-42B24"
/tissue_type="White blood cells"
/note="vector pTARBAC1.3_BamHI
sex female"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /dev_stage="neurula"
/lab_host="Rscherichia coli DH10B"
/clone lib="XGC-neurula"
/clone lib="XGC-neurula"
/note="Vector: pCS107; Site_1: EcoRI; Site_2: NotI; cDNA
was oligo dT primed from 5ug of poly A+ RNA from neurula.
EcoRI-NotI cut cDNA was then ligated into pCS107 with
EcoRI at the 5' end and NotI at the 3' end."
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db_xref="taxon:8364"
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                                                            Score 17.8; DB 1
Pred. No. 1.5e+03
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RESULT 32
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AUTHORS
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AUTHORS
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                                                                                                                                                         AZ560569 712 bp DNA linear RPCI-23-206G21.TJ RPCI-23 Mus musculus genomic clone
                                                                                                                                                                                                                                                                                         1 CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (02-AUG-2001) Asao Fujiyama, The Institute of Physical and Chemical Research (RIKEN), Genomic Sciences Center (GSC); 1-7-22 Suehiro-chou, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (R-mail:chimpbes@gsc.riken.go.jp, URL:http://hgp.gsc.riken.go.jp/, Tel:81-45-503-9111, Fax:81-45-503-9170)
Clones are derived from the chimpanzee BAC library RPCI-43 This BAC
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi; Muroidea; Muridae; Murinae; Mus.
                                                     Mus musculus (house mouse)
Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              end was generated during the R&D process and may have higher chance of clone tracking errors.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pujiyama,A., Hattori,M., Toyoda,A.,
Totoki,Y., Watanabe,H. and Sakaki,Y.
Balc end sequences of Library RPCI-43
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710 bp DNA linear
Pan troglodytes DNA, clone: RP43-005H09.TJ, genomic
                                                                                                                          RPCI-23-206G21,
AZ560569
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Totoki,Y., Watanabe,H. and Sakaki,Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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                                                                                                           AZ560569.1 GI:11240389
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R.Site 2
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                                                                                                                                                                                                                                                                                                                                                                                                                             /cell_type="lymphocytes"
/clone_lib="RPCI-43 Chimpanzee Male BAC Library"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Pan troglodytes"
/mol_type="genomic DNA"
/db_xref="taxon:9598"
/clone="RP43-005H09.TJ"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sex="male"
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90.5%;
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Richardson, P., Lucas, S., Rokhsar, D., Detter, J.C., Ng, D.C., Brokstein, P. and Lindquist, E.A.
DOE Joint Genome Institute Xenopus tropicalis EST project Unpublished (2004)
On Jan 5, 2005 this sequence version replaced gi:57149427 Other_ESTs: JGI XZT52439.rev Contact: Lindquist, E.A., Richardson, P.
DOE Joint Genome Institute
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: szhao@tigr.org
Clones are derived from the mouse BAC library RPCI-23. For BAC
Clones availability, please contact Pieter de Jong
library availability, please contact Pieter de Jong
(pieter@dejong.med.buffalo.edu). Clones may be purchased from
BACPAC Resources (http://bacpac.med.buffalo.edu/orderingframe.htm)
or from Resea ch Genetics (info@resgen.com). BAC end page:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Shaying Zhao
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 0208
Fax: 301 838 0208
                                                                                                                                                                                         Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
Xenopodinae; Xenopus; Silurana.
1 (bases 1 to 788)
                                                                                                                                                                                                                                                                                         Xenopus tropicalis (western clawed frog) Xenopus tropicalis
                                                                                                                                                                                                                                                                                                                                                                                                         JGI XZT52439.fwd NIH XGC tropTad5 Xenopus tropicalis IMAGE:7627184 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       http://www.tigr.org/tdb/bac_ends/mouse/bac_end_intro.html
Plate: 206 row: G column: 21
Seq primer: SP6
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Other_GSSs: RPCI-23-206G21.TV
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Akinret,B., Levins,M., Mcgann,S., Tsegaye,G., Geer,K., Kr
Jong,P. and Fraser,C.M.
                                                                                                                                                                                                                                                                                                                                                                    CX380870.2 GI:74291806
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone lib="RPCI-23"
/note="Organ: Kidney/Brain; Vector: pBACe3.6; Site 1:
/note="Organ: Kidney/Brain; Vector: pBACe3.6; Site 1:
EcoRI; Site 2: EcoRI; Female C57BL/6J mouse kidney and/or brain genomic DNA was isolated and partially digested with a combination of EcoRI and EcoRI Methylase. Size selected DNA was cloned into the pBACe3.6 vector at the EcoRI sites. The ligation products were transformed into DH10B electrocompetent cells (BRL Life Technologies). "
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           organism="Mus musculus"
/mol_type="genomic DNA"
/strain="C57BL/6J"
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/clone="RPCI-23-206G21"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        90.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 17.8; DB 11;
pred. No. 1.5e+03;
0; Mismatches 2;
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JOURNAL COMMENT
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VERSION
KEYWORDS
SOURCE
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CX443805/c
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                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                             AUTHORS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         764
                                                                                                                                                                                                  Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae; Xenopodinae; Xenopus; Silurana.

1 (bases 1 to 793)
Richardson, P., Lucas, S., Rokhsar, D., Detter, J.C., Ng, D.C., Brokstein, P. and Lindquist, E.A.

DOE Joint Genome Institute Xenopus tropicalis EST project Unpublished (2004)
Contact itea-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19;
Email: cdna@jgi-psf.org
Tissue Procurement: Richard M. Harland Laboratory, Univer
California, Berkeley: http://tropicalis.berkeley.edu/home
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CX443805

JGI XZG9472.fwd NIH XGC_tropGas7 Xenopus tropicalis cDNA clone
IMAGE:7526634 5', mRNA sequence.
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Clone Distribution: I.M.A.G.E. Consortium/LLNL:
http://image.llnl.gov
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                                                                                       Tel: 925 296 5600
Fax: 925 296 5710
                                                                                                                                       DOE Joint Genome Institute
2800 Mitchell Drive, Walnut Creek, CA
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CX443805.1 GI:57259637
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Location/Qualifiers
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Fax: 925 296 5710
                                                                                                                                                                                          Contact: Lindquist, E.A., Richardson,
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xenopus tropicalis (western clawed frog)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2800 Mitchell Drive, Walnut Creek,
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/note="Vector: pCS108; Site_1: Sal1; Site_2: Not1; Tadpole /note="Vector: pCS108; Site_1: Sal1; Site_2: Not1; Tadpole /note="Vector: pCS108; Site_1: Sal1; Site_2: Not1; Tadpole /notery constructed by Russell B. Fletcher in R. Harland's lab using poly A RNA and oligo dT primers (Invitrogen SuperScript Plasmid System for cDNA Synthesis and SuperScript Plasmid System for cDNA ynthesis and Cloning). Sal1 (5' end) -Not1 (3' end) cDNA was inserted into vector pCS108
(http://mcb.berkeley.edu/labs/harland/pages/plasmids.html)
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/tlssue type="whole embryo"
/dev stage="Tadpole (st. 36-41)"
/lab_host="E. coli XL1-Blue derivative, Stratagene
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/db_xref="taxon:8364"
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90.5%;
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Pred. No. 1
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REFERENCE
AUTHORS
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JOURNAL
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Best Local :
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                                                                                                                                             Email: cdna@jgi-psf.org
Tissue Procurement: Richard M. Harland Laboratory, University of
California, Berkeley: http://tropicalis.berkeley.edu/home
cDNA Library Preparation: Richard M. Harland Laboratory, University
of California, Berkeley
DNA Comments.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xenopodinae; Xenopus; Silurana.

1 (bases 1 to 794)

Richardson P., Lucas, S., Rokhsar, D., Detter, J.C., Ng, D.C.

Brokstein, P. and Lindquist, E.A.
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CX444795.1 GI:57260627
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                                     DNA Sequencing: DOE Joint Genome Institute: http://www.jgi.doe.gov
Clone Distribution: I.M.A.G.E. Consortium/LLNL:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                    DOB Joint Genome Institute
2800 Mitchell Drive, Walnut Creek, CA 94598,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Lindquist, E.A., Richardson, P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished (2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOB Joint Genome Institute Xenopus tropicalis
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Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
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925 296 5710
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/note="Vector: pCS108; Site_1: SalI; Site_2: NotI;
/note="Vector: pCS108; Site_1: SalI; Site_2: NotI;
/note="Vector: pCS108; Site_1: SalI; Site_2: NotI;
/note-processor pcst. Site_1: SalI; Site_2: NotI;
/note-pcst. Site_1: SalI; Site_1: SalI; Site_2: NotI;
/note-pcst. SalI; Site_2: NotI;
/note-pcst. SalI; Site_2: NotI;
/note-pcst. SalI; Site_2: NotI;
/note-pcst. SalI; Site_1: SalI; Sal
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/dev_stage="Gastrula (st. 10
/lab_host="E. coli XL1-Blue
ElectroTen-Blue"
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/mol_type="mRNA"
/db_xref="taxon:8364"
/clone="IMAGE:7526634"
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Pred. No. 1.6e+03;
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                                                                                                                                                                                                                                                  Unpublished (2004)
On Jan 6, 2005 this sequence version rep
Other_ESTS: JGI XZT35930.rev
Contact: LindquIst, B.A., Richardson, P.
DOB Joint Genome Institute
2800 Mitchell Drive, Walnut Creek, CA 94
Tel: 925 296 5710
Fax: 925 296 5710
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1 (bases 1 to 796)

Richardson,P., Lucas,S., Rokhsar,D., Detter,J.C., Ng,D.C., Brokstein,P. and Lindquist,E.A.

DOB Joint Genome Institute Xenopus tropicalis EST project
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Naming Conventions: EST name is generated by the concatenation of the JGI Clone Id and the direction of sequencing. The suffix '.fwd' indicates a forward sequencing read of the insert. It does not necessarily reflect the orientation of the insert.
                                                                                               of California, Berkeley
DNA Sequencing: DOS Joint Genome Institute: http://www.jgi.doe.gov
Clone Distribution: I.M.A.G.E. Consortium/LLNL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JGI XZT35930.fwd NIH XGC_tropTad5 Xenopus tropicalis cDNA clone IMAGE:7611970 5', mRNA sequence.
                                                                                                                                                                  cDNA Library Preparation: Richard M. Harland Laboratory,
                                                                                                                                                                                      California, Berkeley: http:
                                                                                                                                                                                                          Email: cdna@jgi-psf.org
Tissue Procurement: Richard M. Harland Laboratory, University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Xenopus tropicalis
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BlectroTen-Blue"
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/tissue_type="whole embryo"
/dev_stage="Gastrula_(st. 10.5-12.5)"
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/db_xref="taxon:8364"
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                                                                                                                    http://image.llnl.gov
Naming Conventions: EST name is generated by the concatenation of
the JGI Clone Id and the direction of sequencing. The suffix '.fwd'
indicates a forward sequencing read of the insert. It does not
necessarily reflect the orientation of the insert.
plate: XZG 0081 row: h column: 10
                                                                                                                                                                                                                                                                                   Email: cdna@jgi-psf.org
Tissue Procurement: Richard M. Harland Laboratory, University of
California, Berkeley: http://tropicalis.berkeley.edu/home
CDNA Library Preparation: Richard M. Harland Laboratory, University
of California, Berkeley
Den A Georgia, Berkeley
                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Lindquist, E.A., Richardson, P. DOB Joint Genome Institute
2800 Mitchell Drive, Walnut Creek, CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Xenopodinae; Xenopus; Silurana.
1 (bases 1 to 799)
Richardson, P., Lucas, S., Rokhsar, D., Detter, J.C.,
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
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DOE Joint Genome Institute Xenopus tropicalis
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Clone_Distribution: I.M.A.G.E. Consortium/LLNL:
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/note="Vector: pCS108; Site_1: SalI; Site_2: NotI; Tadpole library constructed by Russell B. Fletcher in R. Harland's lab using poly A RNA and oligo dT primers (Invitrogen SuperScript Plasmid System for cDNA Synthesis and Cloning). SalI [5' end] -NotI [3' end] cDNA was inserted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /tissue_type="whole embryo"
/dev_stage="Tadpole (st. 36-41)"
/lab_host="E. coli XL1-Blue derivative,
ElecTroTen-Blue"
/organism="Xenopus tropicalis"
/mol_type="mRNA"
/db_xref="taxon:8364"
                                                                               Location/Qualifiers
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(http://mcb.berkeley.edu/labs/harland/pages/plasmids.html)
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clone="IMAGE:7611970"
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Pred. No. 1.6e+03;
0; Mismatches 2;
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CX407260/c
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Email: cdna@jgi-psf.org
Tissue Procurement: Richard M. Harland Laboratory, University of
California, Berkeley: http://tropicalis.berkeley.edu/home
CDNA Library Preparation: Richard M. Harland Laboratory, University
of California, Berkeley
DNA Sequencing: DDE Joint Genome Institute: http://www.jgi.doe.gov
Clone Distribution: I.M.A.G.E. Consortium/LLNL:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                     Naming Conventions: EST name is generated by the concatenation of the JGI Clone Id and the direction of sequencing. The suffix '.fwd' indicates a forward sequencing read of the insert. It does not necessarily reflect the orientation of the insert. Plate: XZT 0653 row: b column: 9
High quality sequence stop: 828.
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2800 Mitchell Drive, Walnut Creek, CA 94598,
Tel: 925 296 5600
Fax: 925 296 5710
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On Jan 6, 2005 this sequence version replaced gi:57187960.
Other ESTS: JGI XZT62721.rev
Contact: Lindquist, E.A., Richardson, P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Xenopodinae; Xenopus; Silurana.

1 (bases 1 to 829)

Richardson, P., Lucas, S., Rokhsar, D., Detter, J.C., Ng, D.C.
Brokstein, P. and Lindquist, E.A.
Brokstein, P. and Lindquist, E.A.
DOB Joint Genome Institute Xenopus tropicalis EST project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CAGGACACAGTGGCTTTTGAC 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Xenopus tropicalis (western clawed frog)
Xenopus tropicalis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JGI XZT62721.fwd NIH XGC_tropTad5 Xenopus tropicalis IMAGE:7637291 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CX407260.2 GI:74301053
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/note="Vector: pCS108; Site 1: SalI; Site_2: NotI;
/note="Vector: pCS108; Site 1: SalI; Site_2: NotI;
Gastrula library constructed by Russell B. Fletcher in R.
Harland's lab using poly A RNA and oligo dT primers
(Invitrogen SuperScript Plasmid System for cDNA Synthesis
and Cloning). SalI (5' end) -NotI (3' end) cDNA was
inserted into vector pCS108
(http://mcb.berkeley.edu/labs/harland/pages/plasmids.html)
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/organism="Xenopus tropicalis"
/mol_type="mRRA"
/mbl_type="mRRA"
/db_xref="taxon:8364"
/clone="IMAGE:7637291"
/clone="Whole embryo"
/tissue_type="whole (st. 36-41)"
/dev_stage="Tadpole (st. 36-41)"
/lab_host="E. coli XLI-Blue derivative,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /tissue_type="whole embryo"
/dev_stage="Gastrula (st. 1)
/lab_host="E. coli XL1-Blue
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                                                                                                                                                                                                                                                           ocation/Qualifiers
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Pred. No. 1.
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Stratagene

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Query Match
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                                                                                                                                                                                                                                                                 Naming Conventions: EST name is generated by the concatenation of the JGI Clone Id and the direction of sequencing. The suffix '.fwd' indicates a forward sequencing read of the insert. It does not necessarily reflect the orientation of the insert. Plate: XZT 0585 row: m column: 2
High quality sequence stop: 829.
                                                                                                                                                                                                                                                                                                                                                                                                                               Email: cdna@jgi-psf.org
Tissue Procurement: Richard M. Harland Laboratory, University of
California, Berkeley: http://tropicalis.berkeley.edu/home
CDNA Library Preparation: Richard M. Harland Laboratory, University
of California, Berkeley
DNA Sequencing: DOB Joint Genome Institute: http://www.jgi.doe.gov
Clone Distribution: I.M.A.G.B. Consortium/LLNL:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       On Jan 6, 2005 this sequence version replaced gi:57176876 Other ESTS: JGI XZT56263.rev Contact: Lindquiet, E.A., Richardson, P. DOE Joint Genome Institute 2800 Mitchell Drive, Walnut Creek, CA 94598, USA Tel: 925 296 5610 Fax: 925 296 5710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CAGGACACAGTGGCTTTTGAC 21
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Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
Xenopodinae; Xenopus; Silurana.
1 (bases 1 to 850)
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CX396192.2 GI:74295269
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CX396192 850 bp mRNA linear EST 08-SEP-: JGI_XZT56263.fwd NIH_XGC_tropTad5 Xenopus tropicalis cDNA clone IMAGE:7631020 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unpublished (2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Brokstein, P. and Lindquist, E.A.

DOE Joint Genome Institute Xenopus tropicalis EST project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Richardson, P., Lucas, S., Rokhsar, D., Detter, J.C.,
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Xenopus tropicalis
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/note="Vector: pCS108; Site_1: SalI; Site_2: NotI; Tadpole library constructed by Russell B. Fletcher in R. Harland's lab using poly A RNA and oligo dT primers (Invitrogen SuperScript Plasmid System for cDNA Synthesis and Cloning). SalI [5' end) -NotI (3' end) cDNA was inserted
                                                                     ElectroTen-Blue"
                                                                                     /db xref="taxon:8364"
/clome="IMAGS:7631020"
/tissue_type="whole embryo"
/dev_stage="Tadpole (st. 36-
/lab_host="E. coli XL1-Blue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     into vector pCS108 (http://mcb.berkeley.edu/labs/harland/pages/plasmids.html)
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/clone_lib="NIH_XGC_tropTad5"
/note="Vector: pCS108; Site_1: SalI; Site_2: NotI; Tadpole
library constructed by Russell B. Fletcher in R. Harland's
                                                                                                                                                                                                                              organism="Xenopus tropicalis"
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90.5%;
                                                                                                                                                                                                          _type="mRNA"
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Pred. No. 1
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                                                                                                                36-41) "
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                                                                                          derivative,
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                                                                                        Stratagene
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                                               RESULT 41
CX418837/c
LOCUS
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ORGANISM
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VERSION
KEYWORDS
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CC295265/c
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                          DEFINITION
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COMMENT

TITLE

REFERENCE

AUTHORS

SOURCE ORGANISM

KEYWORDS VERSION ACCESSION

FEATURES

source

RESULT 39 CX396192/c

DEFINITION

밁 S ORIGIN

Matches

Local

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Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
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Phasianinae; Gallus.
1 (bases 1 to 874)
Kremitzki, C., Higginbotham, J., Wy
Warren, W., Graves, T., Mardis, E. a
Gallus gallus BAC End Reads
Unpublished (2003)
                                                                                                                                 593
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CX418837 883 bp
JGI XZG65774.fwd NIH XGC_tropGas7
IMAGE:7579925 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        High quality sequence start: 33
High quality sequence stop: 589.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gallus gallus (chicken)
Gallus gallus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CC295265 8/4 WI CH261-52A19_RM1.1 CH261 Gallus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genome Sequencing Center Washington University School of Medicine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           genomic survey sequence. CC295265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Seq primer: RM1 TACGACTCACTATAGGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Richard K. Wilson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CC295265.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Class: BAC ends
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Email: submissions@watson.wustl.edu
Insert Length: 182000 Std Error: (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                   CTGGACACAGTGGCTTTTGTC 573
                                                                                                                                                                  CAGGACACAGTGGCTTTTGAC 21
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                                                                                                                                                                                                       Conservative
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                                                                                                                                                                                                                                                                                             /cell_line="UCD001, inbred 256"
/clone lib="CH261"
/clone lib="CH261"
/note="Vector: pTARBAC2.1; Site_1: EcoRI; Site_2: EcoRI;
CH261 Female Chicken library - for library and clone ordering information: http://www.chori.org/bacpac"
                                                                                                                                                                                                                                                                                                                                                                                          /clone="CH261-52A19"
/sex="female"
                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Gallus gallus"
/mol_type="genomic DNA"
/strain="Red Jungle Fowl"
/db_xref="taxon:9031"
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90.5%;
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                                                                                                                                                                                                                       Score 17.8; DB 12
Pred. No. 1.6e+03;
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Pred. No. 1
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Tel: 925 296 5600
Fax: 925 296 5710
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DOE Joint Genome Institute
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DOB Joint Genome Institute Xenopus tropicalis EST project
Xenopus tropicalis
Xenopus tropicalis
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JGI XZT42063.fwd NIH XGC_tropTad5 Xenopus
IMAGE:7617582 5', mRNA sequence.
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Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
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Clone Distribution: I.M.A.G.E. Consortium/LLNL:
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/note="Vector: pCS108; Site 1: SalI; Site 2: NotI;
/note="Vector: pCS108; Site 2: NotI]
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/tissue_type="whole embryo"
/dev_stage="Gastrula (st. 10.5-12.5)"
/lab_host="B_ coli XLI-Blue derivative, Stratagene
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mol_type="mRNA"
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                                    (western clawed frog)
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Pred. No. 1.6e
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Richardson, P.,
                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae; Xenopodinae; Xenopus; Silurana.

Xenopodinae; Xenopus; Silurana.

Xenopodinae; Xenopus; Silurana.

Xenopodinae; Xenopus; Silurana.
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895 bp mRNA linear EST 25-AUG-
JGI CABI2333.fwd NIH XGC tropOvil Xenopus tropicalis cDNA clone
IMAGE: 855953 5', mRNA sequence.
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Plate: XZT 0437 row: m column: 4
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Contact: LindquIst,E.A., Richardson,P.
DOB JOINT Genome Institute
2800 Mitchell Drive, Walnut Creek, CA 94598,
Tel: 925 296 5500
Fax: 925 296 5710
Email: cdna@jgi-psf.org
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i (bases 1 to 895)
Richardson, P., Lucas, S., Rokhsar, D., Detter, J.C., Ng, D.C., Brokstein, P. and Lindquist, B.A.

DOE Joint Genome Institute Xenopus tropicalis EST project
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Location/Qualifiers
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Clone Distribution: I.M.A.G.E. Consortium/LLNL:
http://image.linl.gov
                                                                                                                                                                                       Xenopus tropicalis (western clawed frog)
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/note="Vector: pCS108; Site_1: SalI; Site_2: NotI; Tadpole_library constructed by Russell B. Fletcher in R. Harland's lab using poly A RNA and oligo dT primers (Invitrogen Superscript Plasmid System for cDNA Synthesis and Cloning). SalI (5' end) -NotI (3' end) cDNA was inserted
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'tissue type="whole emt.yo"
'dev stage="Tadpole (st. 36-41)"
lab_host="E. coli XII-Blue derivative, Stratagene
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                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                   476
                                                                                        JGI XZT69314.fwd NIH XGC tropTad5
IMAGE:7788220 5', mRNA sequence.
CX333579
CX333579.2 GI:74307480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Naming Conventions: EST name is generated by the concatenation of the UGI Clone Id and the direction of sequencing. The suffix '.fwd' indicates a forward sequencing read of the insert. It does not necessarily reflect the orientation of the insert.

Plate: CABI 0025 row: i column: 7
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DOB Joint Genome Institute
2800 Mitchell Drive, Walnut Creek, CA 94598,
Tel: 925 296 5600
Xenopus tropicalis
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA Sequencing: DOE Joint Genome Institute: http://www.jgi.doe Clone Distribution: I.M.A.G.E. Consortium/LLNL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cDNA Library Arrayed by: DOE Joint Genome Institute:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tissue Procurement: Robert M. Grainger cDNA Library Preparation: Bruce Blumberg Laboratory,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished (2004)
Other_ESTs: JGI_CABI2333.rev
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                                                                       Kenopus tropicalis (western clawed frog)
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Location/Qualifiers
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925 296 5710
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Stratascript reverse transcriptase. After ligation of 
BcoRI adapters (5'-AATTCGGCACGAGG-3') followed by kinasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /lab_host="BlectroMAX DH10B T1 Phage Resistant cells"
/clone lib="NIH XGC tropOvil"
/note="Vector: pCS107; Site_1: EcoRI; Site_2: XhoI; The
library was prepared from 5 ug of poly A+ RNA by oligo-dT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /tissue_type="Oviduct"
/dev_stage="Adult"
/lab_host="ElectroMAX |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /mol_type="mRNA"
/mtrain="N6 (Nigerian 6th generation inbred)"
/db_xref="raxon:8364"
/clone="IMAGE:7855953"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Xenopus tropicalis"
/mol type="mRNA"
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90.5%;
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Pred. No. 1.6e+03;
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CF222676/c
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                                                                                                                                                                                                                                                                                                                                                                                                                                785
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AGENCOURT 15066211 NICHD XGC Emb5
IMAGE:698IZ53 5', mRNA sequence.
CF222676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Naming Conventions: EST name is generated by the conventions: EST name is generated by the conventions: EST name is generated by the content of the insert. Indicates a forward sequencing read of the insert. Decessarily reflect the orientation of the insert. Plate: XZT 0721 row: c column: 2

High quality sequence stop: 803.
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Tissue Procurement: Richard M. Harland Laboratory, University of
Tissue Procurement: Richard M. Harland Laboratory, University
California, Berkeley: http://tropicalis.berkeley.edu/home
CDNA Library Preparation: Richard M. Harland Laboratory, University
of California, Berkeley
DNA Sequencing: DOE Joint Genome Institute: http://www.jgi.doe.gov
Clone Distribution: I.M.A.G.E. Consortium/LLNL:
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Brokstein,P. and Lindquist,B.A.
DOB Joint Genome Institute Xenopus tropicalis EST
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2800 Mitchell Drive, Walnut Creek, CA 94598,
Tel: 925 296 5600
Pax: 925 296 5710
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On Jan 4, 2005 this sequence version replaced gi:57070051
                                                                                                                                                                                                           CF222676
CF222676.1 GI:33423384
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Contact: Lindquist, E.A., Richardson, P.
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1 (bases 1 to 896)
    Xenopodinae; Xenopus; Silurana.

1 (bases 1 to 906)

NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                 Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
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/note="Vector: pCS108; Site 1: SalI; Site 2: NotI; Tadpole library constructed by Russell B. Fletcher in R. Harland's lab using poly A RNA and oligo dT primers (Invirrogen SuperScript Plasmid System for cDNA Synthesis and Cloning). SalI (5' end) -NotI (3' end) cDNA was inserted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               into vector pCS108
(http://mcb.berkeley.edu/labs/harland/pages/plasmids.html)
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/dev_stage="Tadpole (st. 36-
/lab_host="E. coli XL1-Blue
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/mol_type="mRNA"
/db_xref="reaxon:8364"
/clone="IMAGE:7788220"
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90.5%;
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Pred. No. 1.6e+03
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EST 04-AUG-2003

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Matches 19
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Kremitzki,C., Higginbotham,J., Wylie,K., Cart Warren,W., Graves,T., Mardis,E. and Wilson,R. Gallus gallus BAC End Reads

Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Robert M. Grainger
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LINL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM14642 row: C column: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       μ
                                                                                 Washington University School of Medicine Email: submissions@watson.wustl.edu Insert Length: 182000 Std Error: 0.00 Seg primer: RM1 TACGACTCACTATAGGGAGA Class: BAC ends High quality sequence start: 34 High quality sequence stop: 713.
                                                                                                                                                                                                                                                                                                                          Gallus gallus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Bute
Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
Phasianinae; Gallus.
                                                                                                                                                                                                                                                                                                                                                                                                                genomic survey sequence.
CC304636
CC304636.1 GI:30676077
GSS
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High quality sequence stop: 715.
Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CC304636 971 by CH261-89N15_RM1.1 CH261 Gallus
                                                                                                                                                                                                       Genome Sequencing Center
                                                                                                                                                                                                                        Contact: Richard K. Wilson
                                                                                                                                                                                                                                                                                                                                                                                                 Gallus gallus (chicken)
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/dev_stage="embryo, stages 10-13"
/dev_stage="PM10B (phage-resistant)"
/clone_lib="NICHD_XGC_Emb5"
/note="Vector: pCMV-SPORT6.1; Site_1: NotI; Site_2: EcoR-Cloned_unidirectionally. Primer: oTigo_dT. Average insersize_2.0 kb. Constructed_by_Invitrogen. Note: This is a Xenopus Gene_Collection_(XGC)_library."
/organism="Gallus gallus"
/mol_type="genomic DNA"
/strain="Red Jungle Fowl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /mol_type="mRNA"
/db_xref="taxon:8364"
                                                                     Location/Qualifiers
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Pred. No. 1.6e+03;
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CH261-89N15,
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                                                                                   Phase I and II Team.
Analysis of the mouse transcriptome of 60,770 full-length cDNAs
Nature 420, 563-573 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Carninci,P. and Hayashizaki,Y.
High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19;
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HTC; CAP trapper.
Mus musculus (house mouse)
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                                                                                                                                                                                                        Functional annotation of a full-length mouse cDNA collection
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/cell_line="UCD001, inbred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         clone_lib="CH261"
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/note="Vector: pTARBAC2.1; Site 1: EcoRI; Site 2: EcoRI; CH261 Female Chicken library - For library and clone ordering information: http://www.chori.org/bacpac"
                                                                                                                                                                                                                                                                                                 /db_xref="taxon:9031"
/clone="CH261-89N15"
Length 971;
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Gape

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2617 bp mRNA linear embryo embryonic body between full-length enriched library, protein, full insert sequence. diaphragm region clone:9430022A14 HTC 02-SEP-2005

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Sciurognathi; Muroidea; Muridae; Murinae; Mus.

Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K., Itoh,M., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes Genome Res. 10 (10), 1617-1630 (2000)

Shibata, K., Itoh, M., Aizawa, K., Nagaoka, S., Sasaki, N., Carninci, P., Konno, H., Akiyama, J., Nishi, K., Kitsunai, T., Tashiro, H., Itoh, M., Sumi, N., Ishi; Y., Nakamura, S., Hazama, M., Nishine, T., Harada, A., Yamamoto, R., Matsumoto, H., Sakaguchi, S., Ikegami, T., Kashiwagi, K., Fujiwaka, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, E., Watahiki, M., Yoneda, Y., Ishikawa, T., Ozawa, K., Tanaka, T., Matsuura, S., Kawai, J., Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A. and Hayashizaki, Y. RIKEN integrated sequence analysis (RISA) system-384-format sequencing pipeline with 384 multicapillary sequencer Genome Res. 10 (11), 1757-1771 (2000)

The RIKEN Genome Exploration Research Group Phase II Team and

The FANTOM Consortium, the RIKEN Genome Exploration Research Group

RIKEN Genome Exploration Research Group, Genome Science (Genome Network Core Team) and the FANTOM Consortium. Antisense Transcription in the Mammallan Transcriptome Science 309, 1564-1566 (2005) 9 functional annotation

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                                                                                                                                                                                                                                  19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     prepare mouse tissues.
Please visit our web site for further details.
URL:http://genome.gsc.riken.jp/.
URL:http://fantom.gsc.riken.jp/.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Rike Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The FANTOM Consortium, Riken Genome Exploration Research (Genome Science Group) (Genome Network Project Core Group).
The Transcriptional Landscape of the Mammalian Genome Science 309, 1559-1563 (2005)
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8 (bases 1 to 2617)
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                                                                                                                                                     CAGGACACAGTGGCTTTTGAC 21
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KRRSSKDLLGKPPQLYDTPYEPSEGGQRVAEVKTRPADSRLPEEDDRPAAEYEQPWEW
KREQIARALSVQPEGSDRPPGREDAGRPHHWQKTLKPTLSDHGDGEKVDPGLALEKQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /translation="MRRPPAPGAPRCLSWASSLFCSAASTLPGPLMAAKWFKEPPLTL
KTASERAR PGGAGGKPKKNSETGGAAPTPGKGRKNSAABLGASKASSGPPKDSRLSRD
SLQGLIQAAAGKGRKNSRSVTATATEEEPHRGAVTKSAGCSTYISRLIKUDTQEKKKKS
AYPGGGSTSSSSSSSSASSPSSLGPELDKAKIMRQQDTVIILEDYADPYDAKRTKG
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/protein_id="BAC28787.1"
/db_xref="GI:26330097"
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(evidence: ProCrest, decoder, Longest-ORF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone_lib="RIKEN full-length enriched mouse cDNA library"
/dev_stage="12 days embryo"
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_xref="taxon:10090"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RS Kawai, J., Shinagawa, A., Shibata, K., Yoshino, M., Itoh, M., Ishii, Y., Arakawa, T., Hara, A., Fukunishi, Y., Konno, H., Adachi, J., Fukuda, S., Aizawa, K., Izawa, M., Nishi, K., Kiyosawa, H., Kondo, S., Yamanaka, I., Saito, T., Okazaki, Y., Gojobori, T., Bono, H., Kasukawa, T., Saito, R., Kadota, K., Matsuda, H., Ashburner, M., Batalov, S., Casavant, T., Fleischmann, W., Gaasterland, T., Sissi, C., King, B., Kochiwa, H., Kuchi, P., Lewis, S., Matsuo, Y., Nikaido, I., Pesole, G., Quackenbush, J., Schriml, L.M., Staubli, F., Suzuki, R., Tomita, M., Wagner, L., Washio, T., Sakai, K., Okido, T., Furuno, M., Aono, H., Baldarelli, R., Barshi, G., Blake, J., Boffelli, D., Bojunga, N., Carninci, P., de Bonaldo, M.F., Brownstein, M.J., Bult, C., Fletcher, C., Fujita, M., Gariboldi, M., Gustincich, S., Hill, D., Hofmann, M., Hume, D. A., Kamiya, M., Lee, N.H., Lyons, P., Nordone, P., Ring, B., Ringwald, M., Rodriguez, I., Sakamoto, N., Sasaki, H., Sato, K., Schonbach, C., Seya, T., Shibata, Y., Storch, K.F., Suzuki, H., Wynshaw-Boris, A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S., and Harishi A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S., and Harishi A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S., and Harishi A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S., and Harishi A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S., and Harishi A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S., and Harishi A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S., and Harishi A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S., and Harishi A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S., and Harishi A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S., and Harishi A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S., and Harishi A., Yoshida, K., Hasegawa, Y., Kawaji, H., Kohtsuki, S., and Harishi A., Kamarishi A., 
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AK157580
Okazaki,Y., Furuno,M., Kasukawa,T., Adachi,J., Bono,H., Kondo,S., Mikaido,I., Osato,N., Saito,R., Suzuki,H., Yamanaka,I., Kiyosawa,H., Yagi,K., Tomaru,Y., Hasegawa,Y., Nogami,A., Schonbach,C., Gojobori,T., Baldarelli,R., Hill,D.P., Bult,C., Hume,D.A., Quackenbush,J., Schriml,L.M., Kanapin,A., Matsuda,H., Batalov,S., Beisel,K.W., Blake,J.A., Bradt,D., Brusic,V., Chothia,C., Corbani,L.B., Cousins,S., Dalla,B., Dargani,T.A., Flatcher,C.F., Forrest,A., Frazer,K.S., Gaasterland,T., Gariboldi,M., Gissi,C., Godzik,A., Gough,J., Grimmond,S.,
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eut
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AK157580 5736 bp mRNA linear HTC Mus musculus activated spleen cDNA, RIKEN full-length en library, clone:F830224M15 product:hypothetical protein,
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HTC; CAP trapper.
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Carninci, P., Kasukawa, T., Katayama, S., Gough, J., Frith, M.C., Maeda, N., Oyama, R., Ravasi, T., Lenhard, B., Wells, C., Kodzius, R., Shimokawa, K., Bajic, V.B., Brenner, S.E., Batalov, S., Forrest, A.R., Zavolan, M., Davis, M.J., Wilming, L.G., Aidinis, V., Allen, J.E., Ambesi. Impiombato, A., Apweiler, R., Aturaliya, R.N., Bailey, T.L., Bansal, M., Baxter, L., Beisel, K.W., Bersano, T., Bono, H., Chalk, A.M., Chiu, K.P., Choudhary, V., Christoffels, A., Clutterbuck, D.R., Crowe, M.L., Dalla, B., Dalrymple, B.P., de Bono, B., Della Gatta, G., Gingeras, T.R., Pagiolini, M., Faulkner, G., Fletcher, C.F., Fukushima, T., Furuno, M., Futaki, S., Gariboldi, M., Falkner, G., H., Kollas, G., Harbers, M., Hayashi, Y., Hensch, T.K., Hirokawa, N., Hill, D., Huminlecki, L., Iacono, M., Ikeo, K., Iwama, A., Ishikawa, T., Jakt, M., Kanapin, A., Katoh, M., Kawasawa, Y., Kelso, J., Kitamura, H., Kitano, H., Kollas, G., Krishnan, S.P., Kruger, A., Kummerfeld, S.K., Kitano, H., Kollas, G., Krishnan, S.P., Kruger, A., Kummerfeld, S.K., Kitano, H., Kollas, G., Miki, H., Mignone, F., Miyake, S., Miki, S., Madan Babu, M., Madera, M., Marcionni, L., Matsuda, H., Matsuzawa, S., Miki, H., Mignone, F., Miyake, S., Nori, F., Ohara, O., Okazaki, Y., Orlando, V., Pang, K.C., Pavan, W.J., Pavesi, G., Petrovsky, N., Piazza, S., Reed, J., Reid, J.F., Chaz, G., Petrovsky, N., Piazza, S., Reed, J., Reid, J.F., Ring, B. Z., Sinclair, B., Sperling, S., Stupka, B., Sugiura, K., Sultan, R., Wel, C.L., Sheng, Y., Shibata, Y., Shimada, H., Shimada, K., Silva, D., Struka, B., Sugiura, K., Sultan, R., Held, W., Bult, C., Grimmond, S.M., Tang, B., Zhu, S., Zimmer, A., Wel, C.L., Yagi, K., Yamanishi, H., Zabarovsky, B., Zhu, S., Zimmer, A., Wel, C., Sasaki, D., Tomaru, Y., Fukuda, S., Kanamori-Katayama, M., Kato, T., Kawagihima, T., Kojima, M., Kato, T., Okada, M., Palessy, C., Shibata, K., Shiraki, T., Suzuki, H., Kawashima, T., Kojima, M., Waki, K., Yataki, Y., Sandhima, M., Maki, K., Yataki, Y., Sandhima, J., and Hayashizaki, Y.
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                      Katayama, S., Tomaru, Y., Kasukawa, T., Waki, K., Nakanishi, M., Nakamura, M., Nishida, H., Yap, C.C., Suzuki, M., Kawai, J., Suzuki, H. Carninci, P., Hayashizaki, Y., Wells, C., Frith, M., Ravasi, T., Pang, K.C., Hallinan, J., Mattick, J., Hume, D.A., Lippovich, L., Batalov, S., Engstrom, P.G., Mizuno, Y., Faghihi, M.A., Sandelin, A., Chalk, A.M., Mottagui-Tabar, S., Liang, Z., Lenhard, B. and Wahlatt, A.M., Mottagui-Tabar, S., Liang, Z., Lenhard, B. and
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JOURNAL PUBMED REFERENCE AUTHORS

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genomic survey sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (30-MAR-2004) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, 230-0045, Japan (E-mail:genome-res@gsc.riken.jp, URLihittp://genome.gsc.riken.jp/, Tel:81-45-503-9222, Fax:81-45-503-9216)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RIKEN Genome Exploration Research Group
Antisense transcription in the mammalian transcriptome
Science 309 (5740), 1564-1566 (2005)
16141073
                                                                                                            CE693411
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 prepare mouse tissues.
Tissues were provided by Dr. John Todd (Dept. of Medical Genetics
Wellcome Trust Centre for Molecular Mechanisms in Disease Wellcom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              URL:http://genome.gsc.riken.jp/
URL:http://fantom.gsc.riken.jp/.
                                                                                                                                                                                                                                                                                                                                                                                      Similarity
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KREQIARALSVQPEGSDRPPGREDAGRPHHWQKTLKPTLSDHGDGEKVDPGLALEKQP
WYHGSISRAEAESRLQPCKEAAYLVRNSESGNSKYSIALKTSQGCVHIIVAQTKDNKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tissue_type="activated spleen"/clone_lib="RIKEN full-length enriched mouse cDNA library"/
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430 bp DNA linear GSS 31-MAR-1999
HS_5147_A1_A10_SP6E RPCI-11 Human Male BAC Library Homo sapiens
genomic_clone Plate=723 Col=19 Row=A, genomic survey sequence.
Email: jwallace@u.washington.edu
Clones are derived from the human BAC library RPCI-11. For BAC
Clones are allability, please contact Pieter de Jong
(pieter@dejong.med.buffalo.edu). Clones may be purchased from
BACPAC Resources (http://bacpac.med.buffalo.edu/ordering_bac.htm)
                                                                                                  Contact: Mahairas GG, Wallace JC, Hood High Throughput Sequencing Center University of Mashington 401 Queen Anne Avenue North, Seattle, Tel: (206) 616-3618 Fax: (206) 616-3887
                                                                                                                                                                                                                                                  Sequence-tagged connectors: A sequence approach to mapping and scanning the human genome Proc. Natl. Acad. Sci. U.S.A. 96 (17), 9739-9744 (1999)
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Fax: 301-838-0208
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Department of Eukaryotic Genomics,
Rockville, MD 20850, USA
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Rusch,D.B., Delcher,A.L., Pop,M., Wang,W., Fraser,C.M. and
Venter,J.C.
                                                                                                                                                                                                                                                                                                                                   Hominidae; Homo.
1 (bases 1 to 430)
Mahairas,G.G., Wallace,J.C.,
Maller,A., Shaker,R., Furlong
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/mol_type="genomic DNA"
/strain="Standard Poodle"
/db_xref="taxon:9615"
/clone_lib="Dog Library"
/note="Site_1: BstXI; Libraries were prepared from peripheral blood"
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/note="Vector: pBACe3.6; Site_1: EcoRI; Site_2: EcoRI;
Male blood DNA was isolated from ond male blood DNA was isolated from ond ficoRI and and partially disested with a combination of EcoRI and EcoRI Methylase. Size selected DNA was cloned into the pBACe3.6 vector at EcoRI sites"
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/db_xref="taxon:9606"
/clone="plate=723 Col=19 Row=A"
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            Use of nonionic detergent to suppress enzyme inhibition by ionic detergent - partic. to enhance activity of e.g. DNA or RNA polymerase nucleic acid amplification(s).
                                                                                                                                                                                                                                                                                           Human papillomavirus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 1; Page 34; 70pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Probes for detection of Human Papillomavirus Type 16 and Type 18 - c distinguish between Type 16 and 18, associated with genital cancers.
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Pred. No.
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sera react with antigens of all papillomaviruses

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RESULT 3
AAT72335/c

ID AAT72335;

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AC AAT72335;

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AC AAT72335;

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C AAT72335;

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DT 09-FEB-1998 (first entry)
DT 09-FEB-1998 (first entry)
DT 09-FEB-1998 (first entry)
DE Human Papillomavirus Type
XX

Human Papillomavirus; prok
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BEP774518-A2.
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PN EP774518-A2.
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PN EP774518-A2.
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FN EP774518-A2.
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C CAIMAY-1997.

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CGENP-) GEN-PROBE INC.
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PR 15-NOV-1996; 96EP-00308;
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PR 15-NOV-1995; 95US-00068;
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PR 15-NOV-1995; 95US-00068;
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PR 15-NOV-1995; 95US-00068;
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PT GORDON P, Brentano ST, (
XX

CGENP-) GEN-PROBE INC.
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PT Probes for detection of H
PT distinguish between Type
XX

CLaim 1; Page 34; 70pp; E
XX

Novel hybridisation assay
CC oligonucleotide which will
CC probe duptarirus (HPV) Type
CC 39, 45, 51, 52, or 58) ta
CC probe duptarirus (HPV) Type
CC 39, 45, 51, 52, or 58) ta
CC probe duptarirus (HPV) Type
CC 39, 45, 51, 52, or 58) ta
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CC probe duptarirus (HPV) Type
CC 39, 45, 51, 52, or 58) ta
CC probe duptarirus (HPV) Type
CC 39, 45, 51, 52, or 58) ta
CC probe may be used. Oligon
CC and/or 18 can be detected
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CC and/or 18 can be detected
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CC and/or 18 can be detected
CC and/or 18 can be specifically de
CC and/or 18 can be detected
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CC sprobe may be used. Oligon
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                                                                                                     Query Match
Best Local Similarity
Matches 28; Conserv
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1 GAACAGCAATACAACAAACCGTTGTGTG 28
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                                                                                                         Conservative
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                                                                                                  100.0%; Score 28; DB 2;
100.0%; Pred. No. 0.025;
live 0; Mismatches
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RESULT 5
AAT72334
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AAT7259
ID AAT77
XX AAT77
XX AAT77
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Best Local Similarity
                                                            AAT72334;
                                                                                                                         AAT72334 standard; RNA; 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 28 BP; 11 A; 6 C; 6 G; 5 T; 0 U; 0 Other;
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09-FEB-1998

(first entry)

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RESULT 6
ADX26909
ID ADX2
XX
AC ADX2
XX
DT 05-M
XX
Cell
KW cell
KW canc
XX
OS Huma
OS Huma
OS Synt
XX
FH Key
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel hybridisation assay probes have been developed comprising an coligonucleotide which will hybridise under selected conditions to Human Papillomavirus (HPV) Type 16 and/or 18 (but not Types 6, 11, 31, 33, 35, 32 39, 45, 51, 52, or 58) target nucleic acids to form detectable target: probe duplex. The present sequence represents a specifically claimed target region. Oligonucleotides are useful to detect HPV Type 16 and/or 18 in samples e.g. cervical smears, body fluid, and distinguish these from other HPV variants. Papillomaviruses are small DNA viruses and HPV Types 16 and/or 18 mucleic acid in a sample. HPV Type 16 and/or 18 mucleic acid in a sample. HPV Type 16 and/or 18 mucleic acid is optionally amplified. Type 16 or 18 can be detected by adding a probe and detecting probe:target duplex formation, target nucleic acid is optionally amplified. Type 16 or 18 can be specifically detected by amplifying nucleic acids with at least one specifically claimed PCR primer. For Type 18 detection, a helper probe may be used. Oligonucleotides can distinguish target sequences from phylogenetically close HPV Types 16 and 18 whilst available detection of all papillomaviruses
                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local &
                             Human papillomavirus Synthetic.
                                                                                                                        Human papillomavirus type 16 E6 delta151 mutant DNA
                                                                                                                                                          05-MAY-2005
                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 28 BP; 11 A; 6 C; 6 G; 0 T; 5 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; Page 34; 70pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Probes for detection of Human distinguish between Type 16 ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1997-274349/25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gordon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-NOV-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EP774518-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human papillomavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cervical smear; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human Papillomavirus; probe; target region; genital cancer; HPV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human Papillomavirus
                                                                                            cell culture;
                                                                                                                                                                                         ADX26909;
                                                                                                                                                                                                                      ADX26909 standard; DNA; 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-NOV-1996;
                                                                            cancer; neoplasm;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (GENP-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ۳,
                                                                                                                                                                                                                                                                                                                                                               23;
                                                                                                                                                                                                                                                                                                                      1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                  GAACAGCAAUACAACCAAACCGUUGUGUG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Brentano ST,
                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                        (first entry)
                                                                                            immortalization;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                95US-0006854P
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 Location/Qualifiers
                                                                              mutant;
                                                                                                                                                                                                                                                                                                                                                                             100.0%;
82.1%; F
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                                             type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Carter NM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      an Papillomavirus Type 16 and Type 18 - can and 18, associated with genital cancers.
                                                                                                                                                                                                                        ВP
                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                             Score 28;
Pred. No. 0.
                                                                                            Gynecology and
                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   region
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                                                                                                                                                                                                                                                                                                  28
                                                                                                                                                                                                                                                                                                                                                                                            DB 2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Æ
                                                                                            obstetrics; Andrology;
                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                            Length 28
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to a novel immortalized endometrial glandular epithelial cell strain in which an exogenous immortalizing gene is introduced and the properties of the cell line as non-cancer typical glandular epithelial cells, are maintained. The cell line of the invention may be useful for research of reproduction, particularly for analyzing the adhesion of the fertilized egg during implantation, analyzing the effect of steroid hormones, analyzing the mechanism of multistep canceration of the inner glandular epithelial membrane by genetic engineering of the cell line which is otherwise non-cancerous, and analyzing the effect of carcinogenic substances on the cell line. The cell line maintains the properties of normal somatic cells and the properties of endometrial glandular epithelial cells. The current sequence is that of the Human papillomavirus type 16 E6 delta151 mutant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_difference 3. .4
/*tag= a
/note= "Wild-type bases
misc_difference 449. .450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Immortalized endometrial glandular epithelial cell strain containing exogenous immortalizing gene and maintains properties of non-cancer ce and typical glandular epithelial cells, useful in field of research of
 06-APR-1998;
                              11-SEP-2001.
                                                                                                                      cancer; tumour;
                                                                                                                                   Tumour antigen; human; vaccine; cellular immune response; immunogen; E6;
                                                                                                                                                                  Human papillomavirus E6 tumour antigen derived DNA
                                                                                                                                                                                                  21-OCT-2002
                                                                                                                                                                                                                                                            ABQ76223 standard; DNA; 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 452 BP; 156 A; 70 C; 98 G; 128 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 5; SEQ ID NO 4; 22pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2005-175815/19.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JP2005046117-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (UYKA-) UNIV KANAZAWA
(KOKU-) KOKURITSU GAN
                                                                                        papillomavirus
                                                                                                                                                                                                                                                                                                                                                                 1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                 28;
                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                     GAACAGCAATACAACAAACCGTTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                (first entry)
 98US-00056105
                                                                                                                        ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "Wild-type bases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CENT
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                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                               Score 28; DB 14; Length 452; Pred. No. 0.034;
                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                        291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           472-474 have been removed"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4-25 have
                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         been
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                                                                                                                                                                                                                                                                                                                                                                                                 0
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RRESULT 8
ADC37149
ID ADC37
XX
ADC37149
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  processed so that the target processor its fragment is presented to the patients immune system and a cellular immune response is initiated. The method and vectors can be used as a form of vaccination and could be used to generate a cellular immune response in patients to, e.g. cancerous tumours. The cellular immune response is the predominant immune response in the patient. This sequence represents a DNA fragment which encodes a tumour antigen from human papillomavirus E6 described in the method of the invention. Note: The information in this spec has been previously alsolosed in WO199845444 however this spec contained no sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Generating cellular immune response in patient to target protein - comprises introducing vector with nucleotide sequence encoding immunogen comprising protein processing signal into cell of patient.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     immortalised non-tumourigenic; human Schwann; schwannoma cell line; screening cancer chemotherapeutic; antineoplastic activity; carcinogenicity; neuroprotective; neurodegeneration; SV40; simian Virus 40; adenovirus; human papilloma virus; E6; E7; cytosta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        response in a patient to a target protein or its fragment. The method involves introducing a vector containing a nucleotide sequence encoding a chimeric immunogen comprising a protein processing signal and the target protein or its fragment. The immunogen is produced by the cells and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This invention describes a novel method for generating a cellular immune response in a patient to a target protein or its fragment. The method
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene therapy; cancer; HPV16; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-DEC-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADC37149 standard; DNA; 459 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 456 BP; 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Col 91-92; 61pp; English.
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   WPI; 2003-722006/68.
                                                                                                                                                                                                                                                                                                                    12-SEP-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    459bp HPV16 subgenomic fragment DNA sequence
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                                                           Hung G,
                                                                                                                                                                                      01-MAR-2002; 2002US-0361528P
                                                                                                                                                                                                                                                  03-MAR-2003; 2003WO-US006314
                                                                                                                                                                                                                                                                                                                                                                                WO2003073996-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                        papillomavirus type 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 GAACAGCAATACAACCAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                          HOUSE EAR INST
                                                              Li X;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAACAGCAATACAACAAACCGTTGTGTG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; 70 C;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  101 G; 129 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 28; DB 2;
Pred. No. 0.034;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                292
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E7; cytostatic;
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Producing an immortalized non-tumorigenic human Schwann or schwannoma cell line for treating cancer or neurodegenerative disorder comprises selecting for immortalized cells that express the exogenous immortalizing
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Disclosure; SEQ ID NO 1; 29pp; English

i testing carcinogenicity of an agent; screening the neuroprotective activity of an agent; treating neurodegeneration in a patient; and a kit for screening a pharmacological agent on schwannomas cells. In the method of producing an immortalised non-tumourigenic human Schwann or schwannoma cell line, the polynucleotide is a subgenomic fragment of a virus consisting of SV40 (Simian Virus 40), adenovirus and human papilloma virus, comprising the E6 and E7 genes of the human papilloma virus consisting of types 18, 31, 33 or 35, but preferably 16. The immortalised non-tumourigenic human Schwann or schwannoma cell line has cytostatic and neuroprotective activity and be useful in treating disorders by gene therapy. The method is useful for producing an immortalised non-tumourigenic human Schwann or schwannoma cell line useful for gene tumourigenic human Schwann or schwannoma cell line useful for generating cancer chemotherapeutic and antineoplastic activity of an agent, testing carcinogenicity of an agent and screening a neuroprotective activity of carcinogenicity of an agent and screening a neuroprotective activity of carcinogenicity of an agent and screening a neuroprotective activity of carcinogenicity of an agent and screening an europrotective activity of carcinogenicity of an agent and screening an europrotective activity of carcinogenicity of an agent and screening an europrotective activity of carcinogenicity of an agent and screening an europrotective activity of carcinogenicity of an agent and screening and screen The invention relates to a the production of an immortalised non-tumourigenic human Schwann or schwannoma cell line comprising: providing a cell culture of human Schwann or schwannoma cells, introducing a polynucleotide comprising an exogenous immortalising gene into the cells, and selecting for immortalised cells that express the exogenous an agent and for preparing a composition for diagnosing or treating neurodegenerative disorders and cancer. This polymucleotide represents the DNA of a 455by HPVI6 sequence, a subgenomic fragment used in the production of the immortalised non-tumourigenic human Schwann or of a pharmacological agent on human Schwann or schwannoma cells; immortalising gene and retain phenotypic properties of Schwann or schwannoma cells. The invention further comprises: determining the effect screening cancer chemotherapeutic and antineoplastic activity of an agent schwannoma cell line of the invention.

Sequence 459 BP; 157 A; 71 C; 100 G; 131 T; 0 U; 0 Other;

S Matches Query Match ocal Similarity GAACAGCAATACAACAAACCGTTGTGTG 28 Conservative 100.0%; Sc 100.0%; Pr Score 28; Ub 10, No. 0.034; Mismatches DB 10; <u>.</u> Length 459; Indels 0; Gaps 0

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GAACAGCAATACAACAAACCGTTGTGTG 293
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RESULT 9
ADF09607
ID ADF0
XX ADF0
XX ADF0
XX Huma
XX H ADF09607 standard; CDNA;

ВP

Human papillomavirus 16 E6 cDNA SEQ ID NO:108

12-FEB-2004

(first entry)

human; protein-protein interaction; papilloma virus; HPV; cancer; 88; virucide; gene cytostatic; vaccine;

papillomavirus

WO2003068940-A2

14-FEB-2003; 2003WO-US004594.

14-FEB-2002; 2002US-0356911P

(CURA-) CURAGEN CORP. (HOFF) HOFFMANN LA ROCHE INC

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RESULT 10
AAL54430
ID AAL54430
XX AAL54
AC AAL54
XX Viruc
XX Viruc
XX Viruc
XX Selec
XM human
XX malig
XX mili
XX mocoo
PN WO200
XX 17-JU
XX 17-JU
PR 17-JU
PR 11-JI

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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Virucide; cytostatic; anti-HIV; dermatological; small interfering RNA; selective post-translational silencing; siRNA; oncogene; genital wart; human papilloma virus; HPV gene; cancer; human cervical cancer; HIV; smallpox; flu; common cold; cervical cancer; penile cancer; malignant squamous cell carcinoma; verruca vulgaris; gene therapy; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to a novel purified complex comprising a first polypeptide and a second polypeptide, where the polypeptides comprise defined amino acid sequences listed in the specification, and where the first polypeptide binds to the second polypeptide. A complex of the invention has virucide and cytostatic activity, and may have a use as a vaccine. The complex is useful for identifying agents for treating or preventing a conditions involving altered level of the complex, e.g. human papilloms virus (HPV) infection, or cancer. The compositions, antibodies, vectors and methods are useful for treating such diseases. The sequences shown in ADF09584-ADF09697 represent cDNA's of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New purified complex comprising a first polypeptide and a second polypeptide, useful for identifying agents for treating/preventing a condition involving altered level of the complex e.g. human papilloma virus infection, or cancer.
Selective post-transcriptional silencing of an exogenous viral gene (e.g. human papilloma virus (HPV) E6), for treating e.g. cancer, comprises using a small interfering RNA (siRNA) construct homologous to an mRNA of
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14-JAN-2002; 2002GB-0000688.
17-JUN-2002; 2002GB-00013855.
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14-JAN-2002; 2002GB-00000688
17-JUN-2002; 2002GB-00013855
                                                                             Claim 11; Fig
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Virucide; cytostatic; anti-HIV; dermatological; small interfering RNA;
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Best Local &
                                                                                                                                     epithelial cell strain in which an exogenous immortalizing gene is introduced and the properties of the cell line as non-cancer typical glandular epithelial cells, are maintained. The cell line of the invention may be useful for research of reproduction, particularly for analyzing the adhesion of the fertilized egg during implantation, analyzing the effect of steroid hormones, analyzing the mechanism of multistep canceration of the inner glandular epithelial membrane by genetic engineering of the cell line which is otherwise non-cancerous,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            silencing in a mammalian cell of the expression of an exogenous gene of viral origin. The method comprises introducing into the cell a small interfering RNA (siRNA) construct that is homologous to a part of the mRNA sequence of the gene. The method is useful for the selective post-transcriptional silencing of an exogenous gene of viral origin (e.g. an oncogene or human papilloma virus (HPV) gene) in a mammalian cell. The method or the siRNA is particularly useful for treating cancer, human cervical cancer, human immunodeficiency virus (HTV), smallpox, flu, common cold, or a disease caused by a HPV (e.g. genital warts, cervical cancer, penile cancer, malignant squamous cell carcinomas or vertuca vulgaris). An siRNA construct or vector is useful for use as a medicament for the diseases mentioned. The polynucleotide sequence of the invention can be used to treat disorders by gene therapy. This polynucleotide sequence represents the DNA of a HPV siRNA sequence of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Immortalized endometrial glandular epithelial cell strain containing exogenous immortalizing gene and maintains properties of non-cancer and typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells, useful in field of research or typical glandular epithelial cells and typical glandular epithelial cells are typical glandular epithelial cells and typical glandular epithelial cells are typical glandular epithelial cells a
                                              and analyzing the effect of carcinogenic substances on the cell line. cell line maintains the properties of normal somatic cells and the
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                                                                                                                                                                                                                                                    The present invention relates to a method and composition comprising a transfer agent and a solid or colloidal carrier medium for delivering biological agents into cells. The invention is useful for the treatment of cancer, tumor, carcinoma of cutaneous, squamous or cervical epithelia and colorectal carcinoma, wounds, burns and scars. The invention is also useful in gene therapy. The present sequence is the human papillomavirus type 16 E6/E7 gene fragment. This sequence is useful in a method for
                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Composition useful for delivering an agent into a cell comprises agent, a transfer agent and a solid or colloidal carrier medium.
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05-MAR-2004; 2004US-0549919P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        injury; infection; cancer; gastrointestinal disease;
gyneocology and obstetrics; tumor; colorectal tumor;
uterine cervix tumor; squamous cell carcinoma; neoplasm;
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GAACAGCAATACAACAAACCGTTGTGTG
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11-JAN-1997
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      W09619496-A1
                              misc_feature
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148. .150
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A variant of the human papilloma virus (HPV) 86 or 87 protein which elicite a humoral and/or cellular immune response against HPV can be used in vaccines against HPV or to treat HPV infection. The variant is preferably a deletion mutant comprising at least half, and preferably two terminal, or is a full length 86 or 87 protein starting from the N- or C- terminal, or is a full length 86 molety fused to a full length 87 molety. The variant optionally has a linkage molety and a foreign protein or peptide which facilitates the purification of, and enhances the immunogenicity of, the fusion protein. This sequence encodes a fusion between the C-terminal end of 86 and the N-terminal end of 87. The protein is also a deletion mutant generated from the sequence described in AAT31833. (Updated on 27-AUG-2003 to correct OS field.)
                                                  24-APR-2002; 2002CN-00117143
                                                                          24-APR-2002; 2002CN-00117143
                                                                                                   27-NOV-2002
                                                                                                                           CN1381583-A
                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                          human papillomavirus; cervix cancer;
                                                                                                                                                                                                                                                   Human
                                                                                                                                                                                                                                                                           12-FEB-2004
                                                                                                                                                                                                                                                                                                    ADF31984;
                                                                                                                                                                                                                                                                                                                           ADF31984 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 519 BP; 175 A; 92 C; 113 G; 139 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 3; Page 17; 37pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E6 and/or E7 protein, prevent HPV infection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vaccine variants of human papilloma virus antigens - contain variants of 
E6 and/or E7 protein, pref. deletion mutants, and are used to treat or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P-PSDB; AAR97562
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  Zhao Q;
                           (ONCO-)
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                                                                                                                                                                                                                                                   papillomavirus fusion gene encoding sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                       28;
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                           INST ONCOLOGY TUMOR HOSPITAL CHINESE ACA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
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                                                                                                                                                                                                                                                                                                                            DNA; 543
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Pred. No.
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RESULT 16
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DT 16-OC
DT 28-UV
XX HPV16
XX HPV16
XX CETV1
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human papillomavirus E6/E7 fusion gene carrier and fusion protein vaccine.
                                  Human papilloma virus detection ass sustained sequence replication and
                                                                                                                                                                                                                                                                                                                                                                                             HPV; HPV16; E6 cervix cancer;
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25-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAQ75470;
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                                                                                                                Brown
                                                                                                                                                               06-MAY-1993;
                                                                                                                                                                                       06-MAY-1994;
                                                                                                                                                                                                                                         WO9426934-A2
                                                                                                                                                                                                                                                                                                                                                                      Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAQ75470 standard; DNA; 570
           Disclosure; Page 24-26;
                                                                          P-PSDB; AAR63865
                                                                                       WPI; 1995-006821/01
                                                                                                                                      (BAXT ) BAXTER
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DB; ADF31985.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                   encoding region.
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                                                                                                                                      DIAGNOSTICS INC
                                                                                                                                                               93US-00058920
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/label= E6_encoding_region
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                                     detection assay - by amplification using plication and hybridisation with a detector
           79pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                         diagnosis; cervical dyplasia;
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detector pro
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Best Local Similarity
                                                   typing human papilloma virus (HPV) in non-frozen cellular smears fixed to a support in absence of aldehyde-based crosslinking reagents. The assay comprises: (1) combining nucleic acid in the sample with at least one detectable probe able to hybridise with 1 or more HPV types; and (2) detecting presence or absence of hybrid complexes. Opt. several probes are used, eg one for HPV types 6 and 11, associated with benign warts, and one for types 16, 18, 31, 33 and 35, associated with cervical cancer. The assay can differentiate between HPV types. It is esp. used as a secondary test. The probes can be synthesised or cloned. (Updated on 27-AUG-2003 to correct OS field.)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 570 BP; 199 A; 93 C;
                                                                                                                                                                                                                                                                                                                  The patent is for a rapid in situ hybridisation assay for detecting and typing human papilloma virus (HPV) in non-frozen cellular smears fixed to
                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page ?; 39pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hybridisation test for human papilloma virus in cell smears - with long labelled probe specific for particular virus types, examining cervical smears.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1989-114406/15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-SEP-1988;
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17-JUL-1990
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-OCT-1987;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (MICR-) MICROPROBE CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAACAGCAATACAAACCGTTGTGTG 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%;
llarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Adams
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               virus;
benign
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             87US-00103979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   88WO-US003367.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           뵤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     type 16; cervical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ũ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 28; I
Pred. No. 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      119 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     in situ
wart; ce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    end) of human papilloma virus (HPV) type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      159 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cervical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hybridisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멂
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   аввау
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           by reaction esp. for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
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Query Match Best Local Similarity

100.0%;

Score 28; Pred. No.

DB 1; 0.036;

Length 712;

0 Other;

Sequence

712

BP;

253 A; 120 C; 155 G; 184 T; 0 U;

Matches

Conservative

0;

Mismatches

Indels

0

Gaps

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GAACAGCAATACAACAAACCGTTGTGTG

28

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RESULT 18
ADO44067
ID ADO44
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                                                                                                                         The present sequence encodes an E786 fusion protein, comprising wild type CC E7 and E6 polypeptides from human papillomavirus type 16 (HPV16). The CC specification describes human papillomavirus E6 and E7 polypeptides, CC where the E7 polypeptide has mutations at any one or more of the amino acids 24, 26 or 91 of the sequence given in CC AD044073 and the E6 polypeptide has no mutations or has mutations at any CC one or more of the amino acids corresponding to amino acids 3 or 106 of their sequence given in AD044072. The polypeptides of the invention are CC useful for treating or preventing human papillomavirus (HPV)-associated CC cancers, such as cervical cancer. The fusion proteins and nucleic acids C cancers, such as cervical cancer. The fusion proteins and nucleic acids C cancers, such as cervical cancer. The fusion proteins are useful for generating immune responses CC against HPV. They are also useful for treating lower gastrointestinal CC tract cancers, e.g. anal cancer, and other cancers of the reproductive system, including penile and vulvar cancers.
                                Query Match
Best Local S
Matches 28
                                                                                                 Sequence 747
                                                                                                                                                                                                                                                                                                                                                                                                                  New polypeptide comprising human papillomavirus E6 and useful for treating or preventing human papillomavirus cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO2004030636-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       86 protein; E7 protein; fusion protein; l
cervical cancer; immune response; lower;
anal cancer; reproductive system cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADO44067;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADO44067 standard; DNA; 747
                                                                                                                                                                                                                                                                                                                                                                                   Example 1; Page 73; 101pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        03-OCT-2002; 2002US-0415929P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-OCT-2003; 2003WO-US031726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human papillomavirus type 16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (AMHP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2004-316328/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               368
1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADO44066
                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WYETH HOLDINGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAACAGCAATACAACAAACCGTTGTGTG 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cassetti MC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence of an E7E6 fusion protein.
                                  Conservative
                                                                                               BP; 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /product= "E7E6 fusion protein"
                                                100.0%; Score 28; 100.0%; Pred. No.
                                                                                                 A; 132 C; 166 G; 202 T; 0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORP
                                o
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BP
                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       btein; HPV16; HPV-associated cancer;
lower gastrointestinal tract cancer;
sancer; penile cancer; vulvar cancer;
                                                0.036;
                                                              DB 12; Length 747;
                                Indels
                                                                                                 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                   E7 polypeptides, (HPV) -associated
                                0
                                Gaps
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1 GAACAGCAATACAACAAACCGTTGTGTG 28

Query Match Best Local S Matches 28

Similarity

100.0%; 0

Score 28; DB 12 Pred. No. 0.036; Mismatches

DB 12; Length 747; 0

Indels

<u>.</u>

Gaps

0

Conservative

Sequence 747 BP; 246 A; 132 C; 171 G; 198 T; 0 U; 0 Other;

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ABSULT 19
AD044065
ID AD044
XX B6 pr
XX B6 pr
XX Gene;
XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                     The present sequence encodes a fusion protein, comprising E6 and E7 (C polypeptides from human papillomavirus type 16 (HPV16). The fusion protein is designated E6E7PentM, and comprises an E6 amino terminus (where residues 63 and 106 have been replaced with glycine) and an E7 (C carboxy terminus (where residues 24, 26 and 91 have been replaced with glycine). E6E7PentM is representative of fusion proteins of the CC glycine). E6E7PentM is representative of fusion proteins of the CC invention. The specification describes human papillomavirus E6 and E7 (C polypeptides, where the E7 polypeptide has mutations at any one or more CC polypeptides, where the E7 polypeptide has mutations at any one or more of the amino acids corresponding to amino acids corresponding to amino acids 63 or 106 of there sequence given in AD044072. The polypeptides of the invention are useful for treating or preventing human papillomavirus (HPV)-associated cancers, such as cervical cancer. The fusion proteins cand nucleic acids encoding the fusion proteins are useful for generating (HPV)-associated cancers, such as cervical cancer, and other cancers of c dastrointestinal tract cancers, e.g. anal cancer, and other cancers of the reproductive system, including penile and vulvar cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New polypeptide comprising human papillomavirus E6 and E7 polypeptides, useful for treating or preventing human papillomavirus (HPV)-associated cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B6 protein; E7 protein; fusion protein; HPV16; HPV-associated cancer; cervical cancer; immune response; lower gastrointestinal tract cancer; anal cancer; reproductive system cancer; penile cancer; vulvar cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P-PSDB; ADO44064.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Smith L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       03-OCT-2002; 2002US-0415929P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-OCT-2003; 2003WO-US031726
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nucleotide sequence of a fusion protein designated E6E7PentM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-JUL-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADO44065 standard; DNA; 747 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO2004030636-A2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2004-316328/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      556 GAACAGCAATACAACAAACCGTTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24; Page 71; 101pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cassetti MC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product= "E6E7PentM fusion protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      583
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265

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RESULT 20
ADO44061
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                                                             Matches
                                                                            Query Match
Best Local
                                                                                                                                                  The present sequence encodes an B6E7 fusion protein, comprising wild type B6 and E7 polypeptides from human papillomavirus type 16 (HPV16). The specification describes human papillomavirus B6 and E7 polypeptides, where the E7 polypeptide has mutations at any one or more of the amino acids corresponding to amino acids 24, 26 or 91 of the sequence given in ADO44073 and the E6 polypeptide has no mutations or has mutations at any one or more of the amino acids corresponding to amino acids 63 or 106 of there sequence given in ADO44072. The polypeptides of the invention are useful for treating or preventing human papillomavirus (HPV)-associated cancers, such as cervical cancer. The fusion proteins and nucleic acids encoding the fusion proteins are useful for generating immune responses against HPV. They are also useful for treating lower gastrointestinal tract cancers, e.g. anal cancer, and other cancers of the reproductive system, including penile and vulvar cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                             New polypeptide comprising human papillomavirus E6 and E7 polypeptides, useful for treating or preventing human papillomavirus (HPV)-associated cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Smith L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              03-OCT-2002; 2002US-0415929P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human papillomavirus type Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    86 protein; E7 protein; fusion protein; HPV16; HPV-associated cancer; cervical cancer; immune response; lower gastrointestinal tract cancer
                                                                                                                         Sequence 747 BP; 247 A; 132 C; 166 G; 202 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                 Example 1; Page 68; 101pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-OCT-2003; 2003WO-US031726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gene; 88.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nucleotide sequence of an E6E7 fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADO44061;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADO44061 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO2004030636-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       anal cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (AMHP ) WYETH HOLDINGS CORP
 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADO44060.
                                                                           Similarity
                              GAACAGCAATACAACAAACCGTTGTGTG 28
GAACAGCAATACAACAAACCGTTGTGTG 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cassetti MC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       reproductive system cancer; penile cancer; vulvar cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         product= "E6E7 fusion protein"
                                                                           100.0%;
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                                                          Score 28; DB 12;
Pred. No. 0.036;
; Mismatches 0;
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                                                                                        Length 747;
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                                                          Gaps
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                                                                                                                                                                   The present sequence encodes a fusion protein, comprising E6 and E7 C2 polypeptides from human papillomavirus type 16 (HPV16). The fusion C2 protein is designated E6E7TetM, and comprises an E6 amino terminus (where C2 residues 63 and 106 have been replaced with glycine) and an E7 carboxy C2 terminus (where residues 24 and 26 have been replaced with glycine). C3 E6E7TetM is representative of fusion proteins of the invention. The Specification describes human papillomavirus E6 and E7 polypeptides, C2 where the E7 polypeptide has mutations at any one or more of the amino C3 acids corresponding to amino acids 24, 26 or 91 of the sequence given in C4 AD044073 and the E6 polypeptide has no mutations or has mutations at any C5 cone or more of the amino acids corresponding to amino acids 63 or 106 of C6 there sequence given in AD044072. The polypeptides of the invention are useful for treating or preventing human papillomavirus (HPV)-associated C6 cancers, such as cervical cancer. The fusion proteins and nucleic acids C7 cancers, such as cervical cancer. The fusion proteins and nucleic acids C7 cancers, the fusion proteins and nucleic acids C7 cancers, e.g. anal cancer, and other cancers of the reproductive system, including penile and vulvar cancers
                                                                      Best Loc
Matches
                                                                                     Query Match
Best Local Similarity
                                                                                                                                            Sequence 747 BP; 246 A; 132 C; 170 G; 199 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New polypeptide comprising human papillomavirus E6 and E7 polypeptides, useful for treating or preventing human papillomavirus (HPV)-associated cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human papillomavirus type 16. Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                E6 protein; E7 protein; fusion protein; HPV16; HPV-associated cancer; cervical cancer; immune response; lower gastrointestinal tract cancer anal cancer; reproductive system cancer; penile cancer; vulvar cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADO44063;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADO44063 standard; DNA; 747 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 24; Page 70; 101pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2004-316328/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Smith L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-OCT-2002; 2002US-0415929P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nucleotide sequence of a fusion protein designated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P-PSDB; ADO44062.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-OCT-2003; 2003WO-US031726
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 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  88
                                                                      28;
                      GAACAGCAATACAACAAACCGTTGTGTG 28
GAACAGCAATACAACAAACCGTTGTGTG 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cassetti MC
                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
1. .747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product= "B6E7TetM fusion protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /*tag= a
                                                                  100.0%; Score 28; DB 12; 100.0%; Pred. No. 0.036; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  penile cancer; vulvar cancer;
                                                                                                      Length 747;
                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            E6E7TetM
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                                                                      Gaps
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556 GAACAGCAATACAACCAAACCGTTGTGTG

583

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RESULT 22
ADO44069
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                                                                                                                                              The present sequence encodes a fusion protein, comprising E7 and E6 CC polypeptides from human papillomavirus type 16 (HPV16). The fusion CC protein is designated E7E6TetM, and comprises an E7 amino terminus (where CC residues 24 and 26 have been replaced with glycine) and an E6 carboxy CC E7E6TetM is representative of fusion proteins of the invention. The specification describes human appillomavirus E6 and E7 polypeptides, CC where the E7 polypeptide has mutations at any one or more of the amino acids corresponding to amino acids 24, 26 or 91 of the sequence given in CC AD044073 and the E6 polypeptide has no mutations or has mutations at any CC one or more of the amino acids corresponding to amino acids 63 or 106 of there sequence given in AD044072. The polypeptides of the invention are CC cancers, such as cervical cancer. The fusion proteins and nucleic acids cancers, such as cervical cancer. The fusion proteins and nucleic acids cencoding the fusion proteins are useful for treating lower responses against HPV. They are also useful for treating lower gastrointestinal cract cancers, e.g. anal cancer, and other cancers of the reproductive concerns including penile and vulvar cancer.
                                                   Query Match
Best Local S
Matches 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New polypeptide comprising human papillomavirus E6 and E7 polypeptides, useful for treating or preventing human papillomavirus (HPV)-associated cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human papillomavirus type 16. Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADO44069 standard; DNA; 747
                                                                                                                     Sequence 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Smith L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             03-OCT-2002; 2002US-0415929P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-OCT-2003; 2003WO-US031726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E6 protein; E7 protein; fusion protein; HPV16; HPV-associated cancer; cervical cancer; immune response; lower gastrointestinal tract cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADO44069;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-APR-2004.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         anal cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (AMHP ) WYETH HOLDINGS CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2004-316328/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24; Page 74-75; 101pp; English.
1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cassetti MC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence of a fusion protein designated E7E6TetM
                                                     Conservative
                                                                                                                       BP; 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       reproductive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1. .747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product= "E7E6TetM fusion protein"
                                                                   100.0%; Score 28; DB 12; Length 747; 100.0%; Pred. No. 0.036;
                                                                                                                     A; 132 C; 170 G; 199 T; 0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         system cancer;
                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ВP
                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gastrointestinal tract cancer;
penile cancer; vulvar cancer;
                                                     Indels
                                                                                                                       0 Other;
                                                   0
                                                   Gaps
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GAACAGCAATACAACCAAACCGTTGTGTG 28

Query Match Best Local S Matches 28

Similarity

100.0%; Score 28; I 100.0%; Pred. No. 0. 0

DB 12; Length 747;

.036;

Mismatches

Indels

0

Gaps

0

Conservative

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RESULT 23
AD044071
ID AD0444
XX AD044
XX AD044
XX AD044
XX AD044
XX AD044
XX B6 pr
XX E6 pr
XX Cervi
XX Gene;
X
                                                              mutations at any one or more of the amino acids corresponding to amino acids 63 or 106 of there sequence given in ADO44072. The polypeptides of the invention are useful for treating or preventing human papillomavirus and nucleic acids encoding the fusion proteins are useful for generating cancer. The fusion proteins and nucleic acids encoding the fusion proteins are useful for generating immune responses against HPV. They are also useful for treating lower gastrointestinal tract cancers, e.g. anal cancer, and other cancers of the reproductive system, including penile and vulvar cancer.
                                                                                                                                                                                                                                                                                                                                                                     The present sequence encodes a fusion protein, comprising E7 and E6 polypeptides from human papillomavirus type 16 (HPV16). The fusion protein is designated E7E6PentM, and comprises an E7 amino terminus (where residues 24, 26 and 91 have been replaced with glycine) and an E6 carboxy terminus (where residues 63 and 106 have been replaced with glycine). E7E6PentM is representative of fusion proteins of the invention. The specification describes human papillomavirus E6 and E7 polypeptides, where the E7 polypeptide has mutations at any one or more of the amino acids corresponding to amino acids 24, 26 or 91 of the sequence given in ADO44073 and the E6 polypeptide has no mutations or has sequence given in ADO44073 and the E6 polypeptide has no mutations or has
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New polypeptide comprising human papillomavirus E6 and useful for treating or preventing human papillomavirus cancers, e.g. cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            E6 protein; E7 protein; fusion protein; HPV16; HPV-associated cancer; cervical cancer; immune response; lower gastrointestinal tract cancer; anal cancer; reproductive system cancer; penile cancer; vulvar cancer;
   Sequence 747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P-PSDB; ADO44070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2004-316328/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-OCT-2002; 2002US-0415929P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human papillomavirus type 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Nucleotide sequence of a fusion protein designated E7E6PentM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-JUL-2004
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO2004030636-A2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24; Page 76; 101pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cassetti MC;
   BP; 246 A; 132 C; 171 G; 198 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E7 polypeptides, (HPV)-associated
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556

583

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RESULT 24
ADR47004
ID ADR477
XX ADR4
                                                                                     CC adeque virus recombinant replicon has a deletion of the complete coding CC sequence for prew protein of dengue virus and also includes elements of CC e.g. the non-coding region in the whole of the 5'-end, the coding region CC of the front 20 amino acids in the C protein, and the coding region of CC NS1 protein signal; coding regions of all non-structural proteins. The cobtained vaccines are useful in producing preventives or/and remedies for CC cancer like cervical cancer and viral diseases. Such vaccines can CC efficiently express antigen in infected cells, which is because dengue CC virus can infect dendritic cells, and can effectively present antigen to CC provide immunity effect. Different types of dengue virus can be used to CC repeatedly produce efficient immune response thereby strengthening the CC body's immune system against the pathogen that contains such antigen. CC thuman papillomavirus (HPV) vaccines were prepared by using a gene-CC (pRs/FLD2). The recombinant virus vectors were transfected into baby CC hamster kidney (BHK) cells to enable the screening of BHK-21 Tet-off cell CC lines. This sequence corresponds to the HPV type 16 E7 gene used as the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Virus-like particle vaccines containing dengue virus recombinant replicon as core for carrier, applicable in preventives or/and remedies for tumors like cervical cancer and viral diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ds; gene; cytostatic; virucide; dengue virus; recombinant replicon; deletion; preM protein; C protein; NS1 protein signal; vaccine; cervical cancer; viral disease; antigen; dendritic cell; immune response; human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2004-625870/60
P-PSDB; ADR47005.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 2; SEQ ID NO 1; 38pp; Chinese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENBANK; AF486352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pang X;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-JAN-2003; 2003CN-00115272.
30-JAN-2003; 2003CN-00115273.
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   Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (SHAN-)
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   768 BP; 255 A; 139 C; 172 G; 202 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIENTAL TENGEN TECHNOLOGY DEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
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                                                                      in the recombinant replicon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    type
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                                                                      invention.
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Query Match

100.0%;

Score 28;

멂 13;

Length 768

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ARESULT 25
AREA(156
ID AREA(156
AC ALEA(156
AC ALEA(15
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                                                                                                     Matches
                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                  The present invention provides a virus-like particle (VLP) vaccine which contains dengue virus (DEN) recombinant replicon as its core. The DEN replicon contains exogenous nuclectide sequences such as human papillomavirus (HPV) antigen proteins, immune regulators or combination of HPV antigen and immune regulators. The invention is useful for producing a drug for the prophylaxis and treatment of cancer or viral infection. The present sequence is a human papillomavirus oncogene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-JAN-2003; 2003CN-00115272.
30-JAN-2003; 2003CN-00115273.
30-JAN-2004; 2004WO-00072274.
                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New recombinant DEN replicons with a deletion of preM, useful for producing a drug for the prophylaxis and treatment of cancer or vi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2006-109169/11.
P-PSDB; AEF40157.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pang X;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29-JUL-2005; 2005US-00192923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-JAN-2006.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human papillomavirus type 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                coding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vaccine; virus-like particle; replicon; therapeutic; cancer; cytostatic; neoplasm; viral infection; virucide; infection; oncogene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human papillomavirus 16 (HPV-16) E7-E6 oncogene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23-MAR-2006
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENBANK; AF486352, AF469197, AF472508
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                                                                                                   Local Similarity
les 28; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence; ds.
                                      GAACAGCAATACAACAAACCGTTGTGTG 28
  GAACAGCAATACAACAAACCGTTGTGTG 607
                                                                                                                                                                                                        768 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 1; 24pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                     Conservative
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oncoprotein"
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                                                                                                                         100.0%; Score 28; DB 15
100.0%; Pred. No. 0.036;
                                                                                                                                                                                                        A; 139 C; 172 G; 202 T;
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; Mismatches
                                                                                                     Mismatches
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                                                                                                                                                          Length
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RESULT 26
AAT14663
27-AUG-2003
25-MAR-2003
10-OCT-1996
                                       Detection of low copy number intracellular markers - of target RNA in fixed cells then hybridisation with detecting human papilloma virus in cervical cells.
                                                                                                                                                                                                                                 primer_bind
                                                                                                                                                                                                                                                        primer_bind
                                                                                                                                                                                                                                                                                                         primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                           misc_binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human papilloma virus; HPV; detection; cervical cancer; amplification;
hybridisation; diagnosis; transformed cell; E6; E7; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAT14663;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAT14663 standard;
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                        Example 2;
                                                                        WPI; 1996-200273/20.
                                                                                         Haydock
                                                                                                                         10-DEC-1991;
                                                                                                                                        22-MAR-1994;
                                                                                                                                                                          US5506105-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hybridisation;
                                                                                                         (DADE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                            papillomavirus type 16.
                                                                                                         DADE
                                                                                          P۷;
                       Fig 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (revised)
(revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of Human Papilloma Virus
                                                                                                         INI
                                                                                                                                                                                                                                                                                                                                                                               /note= "Primer L
37. .57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           diagnosis; transformed
                                                                                                                                        94US-00216233.
                                                                                                                         91US-00808456.
                                                                                                                                                                                                        /*tag= 1
/note= "Primer F
768
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/note= "Primer |
660. .683
                                                                                                                                                                                                                                 /*tag= h
/note= "Primer I
715. .738
                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
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/note= "Primer
658. .681
                                                                                                                                                                                         note= "Primer H16-773 binding site."
                                                                                                                                                                                                                                                                                                            591. .62:
                                                                                                                                                                                                                                                                                                                                                            154. .474
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'note= "Primer
                                                                                                                                                                                                                                                                                                                                           'note= "Primer
                                                                                                                                                                                                                                                                                                                                                                  note= "Primer
                                                                                                                                                                                                                                                                                                                                                                                                                   note= "Primer
                      21pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA;
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                                      virus in
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                                                                                                                                                                                                                                                                                                                   BB111 binding site
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                                                                                                                                                                                                                                                                                                                                                                                           H16-58 binding site.
                                                                                                                                                                                                                  H16-743 binding site."
                                                                                                                                                                                                                                          BB112 binding site."
                                                                                                                                                                                                                                                                  H16-686 binding site
                                                                                                                                                                                                                                                                                           BB109
                                                                                                                                                                                                                                                                                                                                           BB114 binding site."
                                                                                                                                                                                                                                                                                                                                                                                                                    BB113 binding site."
                                                                                                                                                                                                                                                                                         binding site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16 (HPV 16).
                                                                                                                                                                                                                                                                                                                                                                    site."
                                               by 3SR amplification labelled probe, for
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An in situ hybridisation assay for detecting an intracellular marker of low copy number in cells comprises fixing the cells to a support using

Matches

Conservative

0

Mismatches

0

Indels

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Best Local S
Matches 28
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05-JAN-1998;
17-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            paraformaldehyde; treating the cells with a protease to permeabilise them without altering morphology; adding amplification reagents; incubating the cells at below fifty degrees celsius to perform amplification by self enstained sequence replication; adding a labelled probe complementary to the region between the primers; washing cells to remove unhybridised probe and then detecting the labelled probe. The E6/E7 region of human papilloma virus (HPV) I6 is used especially to detect mRNA being transcribed from this region which becomes active in transformed cells. The method can be used for the early diagnosis of cervical cancer. Primers used to amplify fragments of the E6/E7 region are described in AAT14664-T14674. (Updated on 25-MAR-2003 to correct PF field.) (Updated on 27-AUG-2003 to correct OS field.)
                                                                This nucleotide probe is specific for the HPV16 Human Papilloma Virus (HPV) gene. The degree of HPV infection can be assessed, by measuring the levels of expression of genes involved in the diseased state, and comparing the expression to each other or to reference genes. (Updated on 27-AUG-2003 to correct OS field.)
                                        Sequence 779
                                                                                                                                                                                        New method
                                                                                                                                                                                                                WPI; 1999-443850/37.
                                                                                                                                                                                                                                                                                                                                                     11-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                17-JUN-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          human papilloma virus; infection; gene expression; probe; detection; assay; cancer; virus; HPV; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Probe sequence for HPV 16 E6/E7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-AUG-2003
12-OCT-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 776 BP; 260 A; 139 C; 169
                                                                                                                                              Disclosure; Fig 5; 35pp; English.
                                                                                                                                                                         comparison
                                                                                                                                                                                                                                            Lorincz
                                                                                                                                                                                                                                                                                                                                                                                                                                 Human papillomavirus
                                                                                                                                                                                                                                                                      (DIGE-)
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28; Conserv
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 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard; DNA; 779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                        for assessing Human Papilloma Virus (HPV) infection of gene expression levels.
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ilarity 100.0%;
Conservative 0
                                        BP;
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(first entry)
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98US-0070486P.
98US-0082167P.
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                                        259
100.0%;
                                       A; 139 C; 170
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Pred. No. 0.0
0; Mismatches
Score 28;
Pred. No.
                                        G; 211
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DB 2;
0.036;
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            Length 779;
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RESULT 28
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25-MAR-2003
09-MAR-1993
The fragment of DNA contg. the HPV-16 E6/E7 coding region was prepd. by PCR from plasmid pBR322/HPV16 (Durst et al., PNAS, 80: 3812 (1993)) using oligonucleotides SO5 and SO6. The DNA prod. has a site for Nco1 at the beginning of the E6 gene and a Smal site immediately downstream of the termination codon for E7. The E6 and E7 ORFs are fused together to form a single continuous ORF via site direction two key codons of the HPV E7 sequence. The single ORF of HPV-16 E6/E7 may be inserted into vaccinia virus DNA at neutral sites (pref. by inserting two sets of the HPV E7 opposite orientations to overcome the problem of intertypic recombination) to make a recombinant virus vector for use immunotherapeutically to activate cells of the immune system against HPV.
                                                                                                                                                                                                                                                                                                                                                                                                                 Recombinant virus vectors encoding human papillomavirus proteins - for treating and vaccinating against HPV infections and conditions caused by
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                                                                            A variant of the human papilloma virus (HPV) 86 or 87 protein which elicits a humoral and/or cellular immune response against HPV can be used in vaccines against HPV or to treat HPV infection. The variant is preferably a deletion mutant comprising at least half, and preferably two thirds of full length 86 or 87 protein starting from the N- or C- terminal, or is a full length 86 moiety fused to a full length 87 moiety. The variant optionally has a linkage moiety and a foreign protein or peptide which facilitates the purification of, and enhances the immunogenicity of, the fusion protein. This sequence encodes a full length 86/87 fusion protein. (Updated on 27-AUG-2003 to correct OS
                                                                                                                                                                                                                                                                                                                                                                                                                                Vaccine variants of human papilloma virus antigens - contain variants of E6 and/or E7 protein, pref. deletion mutants, and are used to treat or prevent HPV infection.
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                                                        length
field.)
                                                                                                                                                                                                                                                                                                                                                                                   Example 1; Page 15-16; 37pp; English.
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UNIV QUBENSLAND.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard; DNA; 801
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 790
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Query Match Best Local Similarity

100.0%;

Score 28; DB 2; Pred. No. 0.036;

Length 801

Sequence

801 BP; 266 A; 150 C; 174 G; 211 T; 0 U; 0 Other;

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RESULT 31
AAX29781
ID AAX29
XX
AC AAX29
XX
AC T7-OC
DT 17-OC
DT 22-JU
XX
DE Prot.
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                                                                                                                                                                                                      Query Match
Best Local (
                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                             AAX78791-X78801 represent nucleic acid sequences which encode novel constructs comprising an E6 or E7 protein or E6/E7 fusion protein from HPV (represented in AAY25375-Y25386). These constructs are optionally linked to an immunological fusion partner and an immunomodulatory CpG oligonuclectide. The products of the invention can be used to induce an immune response in a patient to an HPV antigen. They can also be used for preventing or treating HPV induced tumours
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HPV fusion protein D1/3-E6-His/HPV16 DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAX78792 standard;
Prot.D1/3-E6-His/HPV16 coding sequence.
                          17-OCT-2003
22-JUN-1999
                                                            AAX29781;
                                                                                  AAX29781 standard;
                                                                                                                                                                                                                                          Sequence 822 BP; 277 A; 147 C; 168 G; 230 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                          Example II; Page 48; 62pp; English.
                                                                                                                                                                                                                                                                                                                                                                                               Composition comprising
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dalemans WLJ, Gerard CMG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO9933868-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HPV antigen; prevention; treatment; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fusion protein; E6 protein; E7 protein; E6/E7; immunomodulator; tumour; immunological fusion partner; CpG oligonucleotide; immune response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAX78792;
                                                                                                                                                                                                                                                                                                                                                                                  induce immune response
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS
                                                                                                                                                                                                                                                                                                                                                                                                                       1999-405485/34.
DB; AAY25376.
                                                                                                                                              604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    286 GAACAGCAATACAACAAACCGTTGTGTG
                                                                                                                                                                                            28;
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                                                                                                                                                                                                       Similarity
                                                                                                                                                          GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAACAGCAATACAACAAACCGTTGTGTG
                                                                                                                                             GAACAGCAATACAACAAACCGTTGTGTG 631
                                                                                                                                                                                            Conservative
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                       (revised)
(first entry)
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                                                                                    DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entry)
                                                                                                                                                                                         100.0%; Score 28;
100.0%; Pred. No.
tive 0; Mismatch
                                                                                                                                                                                                                                                                                                                                                                                   g an E6, E7 of to HPV.
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                                                                                                                                                                                                                                                                                                                                                                                               or E6/E7 fusion protein
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0.037;
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                                                                                                                                                                                                                 Length 822
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RESULT 32
AED52633
ID AED52
XX AED52
XX 29-DE
XX Pusio
XX Fusio
XX Ingan
OS Human
OS Chime
XX Chime
XX Ingan
XX Ingan
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                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 28
                                                                                                                     This sequence represents the coding region for a chimeric E6 or E7 protein or E6/E7 fusion protein from Human papillomavirus (HPV) linked t an immunological fusion partner, in this case, a fragment of the Haemophilus influenzae B protein D. The sequence also contains a histidine tag at the C-terminus of the encoded protein. The protein can be used in a vaccine, for immuno-therapeutically treating HPV induced tumour lesions (benign or malignant) and preventing HPV viral infection. (Updated on 17-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human papillomavirus. Haemophilus influenzae. Chimeric.
                                                                                                                                                                                 Pusion protein; vaccine; papilloma;
virucide; uterine cervix tumor; E6;
                                                                                                                                                                                                                         Fusion protein D1/3-E6-His/HPV16, DNA.
                                                                                                                                                                                                                                                      29-DEC-2005
                                                                                                                                                                                                                                                                                  AED52633;
                                                                                                                                                                                                                                                                                                            AED52633 standard; DNA; 822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 822 BP; 277 A; 147 C; 168 G; 230 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Fig 3; 95pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human Papilloma Virus (HPV) fusion proteins - useful in vaccines treatment or prophylaxis of HPV induced lesions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1999-190587/16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bruck C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         04-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO9910375-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chimeric; E6; E7; fusion protein; protein D; vaccine; immunotherapy; tumour; lesion; benign; malignant; virus; infection; ss.
              IN9801903-I4.
                                                                                                              Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lombardo-Bencheikh A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                                                                                                                                                                                                                                                                                                604 GAACAGCAATACAAACCGTTGTGTG 631
                                                                                                                                                                                                                                                                                                                                                                                                          -
                                                                                                                                                                                                                                                                                                                                                                                                                                   2h 100.0%; Score 28; DB 2; I Similarity 100.0%; Pred. No. 0.037; 28; Conservative 0; Mismatches (
                                                                                                                                                                                                                                                                                                                                                                                                  GAACAGCAATACAACAAACCGTTGTGTG 28
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                                                                                                                                                                                                                                                     (first entry)
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                                        /*tag= a
/product=
                                                                                  Location/Qualifiers
                                                  Qu 
                                          "Fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Delisse AEF,
                                                                                                                                                                               cytostatic; papillomavirus infection; ds; gene; D protein.
                                           D1/3-E6-His/HPV16"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gerard
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 822
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linked to
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RESULT 33
AAX78795
ID AAX78
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Best Local S
Matches 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to human Papilloma virus (HPV) fusion proteins, linked to an immunological fusion partner that provides T helper epitopes to the HPV antigen. Vaccine formulations comprising the fusion proteins are useful in the treatment or prophylaxis of HPV induced lesions (papillomas, warts and cervical cancer). HPV 16 (and HPV 18) E6 and E7 proteins (singly, as an E6-E7 fusion or mutated) were fused to either Haemophilus influenzae D protein (20-127), the C-terminus of Streptococcus pneumoniae Lyca protein (CLyca) or thioredoxin. The present sequence encodes an HPV-H. influenzae D protein, fusion protein of the
Composition comprising induce immune response
                                                                                                                                                                                                                                                                                                 06-SEP-1999
                                                                                                                                                                                                                                                                                                                                          AAX78795 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 822 BP; 277 A; 147 C; 168 G; 230 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   04-MAR-2005
                                                                                                                              18-DEC-1998;
                                                                                                                                                    08-JUL-1999.
                                                                                                                                                                          WO9933868-A2
                                                                                                                                                                                                          Synthetic.
                                                                                                                                                                                                                                                   Fusion protein;
                                                                                                                                                                                                                                                                           HPV fusion
                                                                                                                                                                                                                                                                                                                     AAX78795;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vaccine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tyrrell
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24-AUG-1998;
                                                                Dalemans WLJ,
                                                                                                                                                                                              Human papillomavirus
                                                                                     (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS
                                                                                                                                                                                                                                           Lumuno-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (SMIK)
                                                                                                                                                                                                                             antigen;
                                           1999-405485/34
                                                                                                                                                                                                                                                                                                                                                                                                  604
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                                                                                                                                                                                                                                                                                                                                                                                                                                           28;
                                                                                                                                                                                                                                                                                                                                                                                                            1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                          ogical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AWR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SMITHKLINE BEECHAM BIOLOGICALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                 GAACAGCAATACAACAAACCGTTGTGTG 631
                                                                                                                                                                                                                                                                         protein CLYTA-E6-His/HPV16 DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fig 3; 96pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                            l fusion partner; CpG oligo prevention; treatment; ss.
                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                        fusion
                                                                Gerard
                                                                                                                              98WO-EP008563.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97EP-00179535.
                                                                                                          97GB-00027262.
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                                                                                                                                                                                                                                                   E6 protein; E7 protein; E6/E7; immunomodulator; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
  t an
                                                                                                                                                                                                                                                                                                                                            879
  HPV
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Pred. No.
            ₽7
                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
            ů
                                                                                                                                                                                                                                         oligonucleotide;
            E6/E7
                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
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            fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                           0
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           protein
                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                          immune response;
            from
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RESULT 34
AAX29784
ID AAXX
XX AAX
XX AAX
XX Chi
DT 17-C
XX Chi
XX C
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XXXXSSSSSSSXXX
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                                            This sequence represents the coding region for a chimeric E6 or E7 protein or E6/E7 fusion protein from Human papillomavirus (HPV) linke an immunological fusion partner, in this case, a fragment of the streptococcus pneumoniae CLYTA protein. The sequence also contains a histidine tag at the C-terminus of the encoded protein. The protein ce be used in a vaccine, for immuno-therapeutically treating HPV viral infection tumour lesions (benign or malignant) and preventing HPV viral infecti (Updated on 17-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAX78791-X78801 represent nucleic acid sequences which encode novel constructs comprising an B6 or E7 protein or B6/B7 fusion protein from HPV (represented in AAY25375-Y25386). The constructs are optionally linked to an immunological fusion partner and an immunomodulatory CpG oligonucleotide. The products of the invention can be used to induce an immune response in a patient to an HPV antigen. They can also be used for
  Sequence
                                                                                                                                                                                                                                                                            Disclosure; Fig 10; 95pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bruck C, Cabezon & Lombardo-Bencheikh
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human papillomavirus.
Streptococcus pneumon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chimeric;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLYTA-E6-His coding sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17-OCT-2003
22-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAX29784;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            preventing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example VI;
                                                                                                                                                                                                                                                                                                                           treatment or prophylaxis
                                                                                                                                                                                                                                                                                                                                                        Human Papilloma Virus (HPV)
                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1999-190587/16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17-AUG-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  lesion;
                                                                                                                                                                                                                                                                                                                                                                                                    P-PSDB; AAY02635.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661 GAACAGCAATACAACAAACCGTTGTGTG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  benign;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAACAGCAATACAACAAACCGTTGTGTG
  879 BP; 289 A; 168 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       879 BP; 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             E6; E7; fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cabezon Silva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            or treating HPV induced tumours
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (revised)
(first en
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pneumoniae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97GB-00017953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 98WO-EP005285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7; fusion protein; malignant; virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 52; 62pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 28; 100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'n
                                                                                                                                                                                                                                                                                                                           PV) fusion proteins - useful in vaccines for of HPV induced lesions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Delisse AEF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BP.
  209 G; 213 T; 0 U;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLYTA; vaccine; infection; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       688
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .037;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gerard
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     0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               immunotherapy; tumour;
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Query Match

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Score

28;

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Length 879

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RESULT 36
AAA09477
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AED52641
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Best Local S
Matches 28
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                                                                                                                                                                                 The invention relates to human Papilloma virus (HPV) fusion proteins, linked to an immunological fusion partner that provides T helper epitopes to the HPV antigen. Vaccine formulations comprising the fusion proteins are useful in the treatment or prophylaxis of HPV induced lesions (papillomas, warts and cervical cancer). HPV 16 (and HPV 18) E6 and E7 proteins (singly, as an E6-E7 fusion or mutated) were fused to either Haemophilus influenzae D protein (20-127), the C-terminus of Streptococcus pneumoniae Lyta protein (CLYLA) or thioredoxin. The present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pusion protein; vaccine; papilloma; cytostatic; papillomavirus infection; virucide; uterine cervix tumor; R6; ds; gene; LytA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AED52641 standard; DNA; 879 BP
                                                                                                                                                  Sequence 879 BP; 289 A; 168 C; 209 G; 213 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                    Example 10; Fig 10; 96pp; English
                                                                                                                                                                                                                                                                                                                                                                                           Tyrrell AWR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human papillomavirus type 16 Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Streptococcus pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29-DEC-2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AED52641;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IN9801903-I4.
                                                                                                                                                                         sequence encodes an HPV-LytA,
                                                                                                                                                                                                                                                                                                                                                      P-PSDB; AED52642
                                                                                                                                                                                                                                                                                                                                                                                                                   (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS
                                                                                                                                                                                                                                                                                                                                                                 2005-557648/57.
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                                                  661
                                                                                                   28;
                                                               1 GAACAGCAATACAACCAAACCGTTGTGTG 28
                                                                                                                Similarity
                                                 GAACAGCAATACAACAAACCGTTGTGTG 688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAACAGCAATACAACAAACCGTTGTGTG 688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAACAGCAATACAACCAAACCGTTGTGTG 28
                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cLytA-E6-His/HPV16,
                                                                                                                                                                                                                                                                                                                                                                                                                                            97EP-00179535.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98IN-CH001903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
1. .879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /product= "Fusion protein cLytA-E6-His/HPV16"
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                                                                                                              Score 28;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No.
                                                                                                                                                                         fusion protein of the invention
                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA.
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                                                                                                              0.037;
                                                                                                                        DB 14;
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                                                                                                                          Length 879;
                                                                                                   Indels
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                                                                                                   Gaps
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                                                                                                                                                         CC The invention concerns transgenic non-human animals that express CC concogenes of interest in their epithelial cells, and materials and CC methods for their production. Expression of the oncogenes is controlled CC by a sequence from the human involucrin upstream regulatory region (see CAA09476) which targets expression to desired tissues and cells (i.e. CC suprabasal stratified squamous epithelial tissue). The transgenic animals CC are useful as animal models for studying neoplastic diseases that affect CC epithelial tissues, such as those caused by the papillomavirus 16 CC oncogene E6 or E7 nucleic acid sequences and including blistering CC diseases (e.g. epidermolytic hyperkeratinosis, Dowling-Meara disease), CC proliferative diseases (e.g. psoriasis, epidermal lysis and Bulosa CC simplex), ichthyosis disease (e.g. Ichthyosis bullosa Simens and CC colon, cervix and liver. The animal models may also be used to screen CC candidate agents for the ability to prevent or treat these diseases
                                                           Matches
                                                                         Query Match
Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hINV; involucrin; regulatory region; tissue-specific; promoter; on suprabasal; stratified; squamous; epithelial tissue; animal model; neoplasia; papillomavirus 16; E6; E7; blistering; proliferative;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human papillomavirus type 16 E6
                                                                                                                    Sequence 921 BP; 308 A; 167 C; 197 G; 249 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Fig 13; 86pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                              Transgenic animals that express oncogenes in epithelial tissue, useful as disease models for neoplastic conditions such as psoriasis and melanomas.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eckert RL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-OCT-1998;
29-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-OCT-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAA09477 standard; DNA; 921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (UYCA-) UNIV CASE WESTERN RESERVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ichthyosis; cancer; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000-365596/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   papillomavirus type 16.
               1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                           Similarity
GAACAGCAATACAACAAACCGTTGTGTG 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Crish JF;
                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98US-0106495P.
99US-00430201.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99WO-US025516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           628. .921
/*tag= b
/label= E7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label= E6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ocation/Qualifiers
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                                                                         100.0%;
                                                                                       100.0%;
                                                           0,
                                                                         Score 28; DB 3; Pred. No. 0.037;
                                                           Mismatches
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RESULT 37 AAD35101

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RESULT 38
AAQOB627
ID AAQOB
XX AAQOB
AC AAQOB
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DT 21-AH
XX HPV-1
XX
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Best Local S
Matches 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present invention relates to an alphavirus vector system comprising nucleic acid derived from a human papilloma virus (RFV). The invention cells containing it, are used in treatment and prevention of cervical cancer, particularly as a vaccine. By selecting the nucleic acid that encode E6/E7 proteins without ability to bind to pRb and p53, the risk that cells infected with the alphavirus vector system may become oncogenic is avoided (contrast use of other viral vectors). The present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New alphavirus system, useful for genetic cancer, comprises papilloma virus nucleic
                                                                                                                                                                                                                                                                                                                                                                       24-OCT-2003
21-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 939 BP; 284 A; 197 C; 217 G; 241 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 2; Fig 19; 45pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Regts DG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                06-OCT-2000; 2000EP-00203472
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alphavirus vector system; human papilloma virus; HPV; cervical cancer; therapy; vaccine; virucide; cytostatic; ds.
                   misc_binding
                                                                                                                                                                              Human papillomavirus type 16.
                                                                                                                                                                                                                                                                                                                  HPV-16 fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAQ08627;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAQ08627 standard; DNA; 1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-OCT-2000; 2000EP-00203472
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-JUL-2002
                                                                                               misc_binding
                                                                                                                                                                                                                                                             HPV-18; HPV-16; amplification; primer; polymerase chain reaction; PCR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAD35101 standard; DNA; 939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (UYGR-) RIJKSUNIV GRONINGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          450 GAACAGCAATACAACAAACCGTTGTGTG 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 GAACAGCAATACAACAAACCGTTGTGTG 28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                     (revised)
(first entry)
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/*tag= a
/note= "primer (AAQ08628)
601. .620
                                                                                                  Location/Qualifiers
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XX Z7-AU
DT 27-AU
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DT 16-MA
XX Cervi
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Best Local (
                                                                                                                                                                                                                                                                                                                27-AUG-2003
25-MAR-2003
16-MAR-1990
                                                                                                                                04-APR-1988;
31-MAR-1989;
Claim 40; Page 46; 81pp; English.
                       Rapid detection of specific human papilloma virus genotypes -
hybridisation of DNA digest with new labelled nucleic acid pro
                                                            WPI; 1989-324314/44.
                                                                                  George AL,
                                                                                                                                                                     04-APR-1989;
                                                                                                                                                                                                                    WO8909940-A.
                                                                                                                                                                                                                                         Human papillomavirus type 16
                                                                                                                                                                                                                                                                  Cervical cancer.
                                                                                                                                                                                                                                                                                        DNA probe complementary to human papilloma virus type 16.
                                                                                                                                                                                                                                                                                                                                                                 AAN91784;
                                                                                                                                                                                                                                                                                                                                                                                         AAN91784 standard; DNA; 1005 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1000 BP; 340 A; 171 C; 230 G; 259 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 4b describes the results of the amplification of HPV-16 DNA PCR using primers. (Updated on 24-OCT-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 4b; Page 4; 11pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Detection of human papilloma virus -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1990-156905/21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cerutti P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11-NOV-1988;
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                                                                                                           (ONCO-) ONCOR
                                                                                                                                                                                             19-OCT-1989.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    368 GAACAGCAATACAAACCGTTGTGTG 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   l Similarity 100.0%;
28; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 GAACAGCAATACAACCAAACCGTTGTGTG 28
                                                                                    Groff DE
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                                                                                                                                  88US-00177404
89US-00330381
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                                                                                                                                                                     89WO-US001318
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/note= "primer (AAQ08629) binding site"
658. .677
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/note= "primer
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 28; DB 2;
Pred. No. 0.037;
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RESULT 40
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Best Local Sim
Matches 28;
                                                      Query Match
Best Local S
Matches 28
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                                                                                                                                    AAX78791-X78801 represent nucleic acid sequences which encode novel constructs comprising an E6 or E7 protein or E6/E7 fusion protein from HPV (represented in AAY25375-Y25386). These constructs are optionally linked to an immunological fusion partner and an immunomodulatory CpG oligonuclectide. The products of the invention can be used to induce an immune response in a patient to an HPV antigen. They can also be used in preventing or treating HPV induced tumours
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1005 BP; 325 A; 182 C; 190 G; 308 T; 0 U; 0 Other;
                                                                                                             Sequence 1116 BP;
                                                                                                                                                                                                                                                                                  Composition comprising an E6, E7 induce immune response to HPV.
                                                                                                                                                                                                                                                                                                                             WPI; 1999-405485/34.
P-PSDB; AAY25377.
                                                                                                                                                                                                                                                                                                                                                                        Dalemans WLJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HPV fusion
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAX78793 standard; DNA; 1116 BP.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fusion protein; E6 protein; E7 immunological fusion partner; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                           18-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO9933868-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HPV antigen;
                                                                                                                                                                                                                                                                                                                                                                                                    (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      820 GAACAGCAATACAACCAAACCGTTGTGTG 847
 604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          papillomavirus
                          1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                        III; Page 49; 62pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAACAGCAATACAACAAACCGTTGTGTG 28
 GAACAGCAATACAACAAACCGTTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein D1/3-E6E7-His/HPV16 DNA
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                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in; E6 protein; E7 protein; E6/E7; immunomodulator; tumour;
l fusion partner; CpG oligonucleotide; immune response;
prevention; treatment; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                        Gerard
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           98WO-EP008563
                                                                                                             368 A; 208 C; 235 G; 305 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 28; DR
100.0%; Pred. No. 0.0
Live 0; Mismatches
                                                                     100.0%; Score 28; 100.0%; Pred. No.
                                                        0
                                                        Mismatches
                                                                                                                                                                                                                                                                                                   or E6/E7 fusion protein from
 631
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0.037;
                                                                   0.038;
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                                                                                  DB 2;
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RASSULT 41
RAX29782
ID AAX29782
XX AAX29
AC Chime
KW Chime
AXX Prot.
AXX Prot.
AXX Prot.
BACK
XX Bruck
PI Lomba
XX WPI,
DR P-PSD
XX WPI,
DR P-PSD
XX WPI,
DR P-PSD
XX WPI,
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CC This
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CC Checus
SQ Seque
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AED52637
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Best Local S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human papillomavirus. 
Haemophilus influenzae.
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Haemophilus influenzae; strain 772
                               Pusion protein; vaccine; papilloma;
virucide; uterine cervix tumor; E7;
                                                                                Fusion protein
                                                                                                                 29-DEC-2005
                                                                                                                                                  AED52637
                                                                                                                                                                                 AED52637 standard; DNA; 1116 BP
                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1116 BP; 368 A; 208 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure, Fig 6; 95pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human Papilloma Virus (HPV) fusion proteins - useful treatment or prophylaxis of HPV induced lesions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bruck C, Cabezon Sil
Lombardo-Bencheikh A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17-AUG-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chimeric;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Prot.D1/3-E6-E7-His/HPV16 coding sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17-OCT-2003
22-JUN-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1999-190587/16.
DB; AAY02633.
                                                                                                                                                                                                                                                                    604 GAACAGCAATACAACAAACCGTTGTGTG
                                                                                                                                                                                                                                                                                                 1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                   28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    c; E6; E7; fusion protein; protein D; vaccine; immunotherapy;
lesion; benign; malignant; virus; infection; ss.
                                                                                                                                                                                                                                                                                                                                                   Similarity
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(first en
                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                 (first entry)
                                                                                D1/3-E6-E7-His/HPV16, DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97GB-00017953.
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Pred. No. 0.038;
                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                     235 G; 305 T; 0 U; 0 Other;
                               cytostatic; papillomavirus infection; E6; ds; gene; D protein.
                                                                                                                                                                                                                                                                     631
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                                                                                                                                                                                                                                                                                                                                   Gaps
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RASSULT 43
AAX778797
ID AAX78
XX AAX78
AC AAX78
XX DF 06-SI
XX FUB 1
XX HPV 2
XX HPV 2
XX HPV 3
XX HPV 6
XX HPV 6
XX HPV 6
XX HPV 6
XX HPV 7
XX HPV 8
XX HUMBAI
XX HV 8099:
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to human Papilloma virus (HPV) fusion proteins, linked to an immunological fusion partner that provides T helper epitopes to the HPV antigen. Vaccine formulations comprising the fusion proteins are useful in the treatment or prophylaxis of HPV induced lesions (papillomas, warts and cervical cancer). HPV 16 (and HPV 18) E6 and E7 proteins (singly, as an E6-E7 fusion or mutated) were fused to either Haemophilus influenzae D protein (20-127), the C-terminus of Streptococcus pneumoniae Lyth protein (CLyth) or thioredoxin. The present sequence encodes an HPV-H. influenzae D protein, fusion protein of the
                                                                                                                                                                                                                                                         Pusion protein; E6 protein; E7 protein; E6/E7; immunological fusion partner; CpG oligonucleoti HPV antigen; prevention; treatment; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human papillomavirus type Synthetic.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 6; Fig 6; 96pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Vaccine
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                         18-DEC-1998;
                                                                                                                                                                                                               Synthetic
                                                                                                                                                                                                                                                                                                                                                                      HPV fusion protein CLYTA-E6E7-His/HPV16 DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                              06-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAX78797 standard; DNA; 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tyrrell
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                                                                              08-JUL-1999.
                                                                                                                              WO9933868-A2
                                                                                                                                                                                Human papillomavirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2005-557648/57
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 100.0%; Score 28; DB 14; Similarity 100.0%; Pred. No. 0.038;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAACAGCAATACAACAAACCGTTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAACAGCAATACAACCAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                            98WO-EP008563
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98IN-CH001903
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .1116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A.
                                                                                                                                                                                                                                                                 tner; CpG oligonucleotide; immune response;
treatment; ss.
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                                                                                                                                                                                                                                                                                                                    immunomodulator; tumour;
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RESULT 44
AAX29786
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AC AAX29
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                                                                                                                                                                                                                                                                                Human papillomavirus. Streptococcus pneumon
                                                                                                                                                                                                                                                                                                                                                                                                                AAX29786;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1173 BP; 380 A; 229 C;
                                            Human Papilloma Virus (HPV) fusion proteins - us treatment or prophylaxis of HPV induced lesions
                                                                            WPI; 1999-190587/16.
P-PSDB; AAY02637.
                                                                                                              Bruck C, Cabezon Silva T,
Lombardo-Bencheikh A;
                                                                                                                                                                                                17-AUG-1998;
                                                                                                                                                                                                                        04-MAR-1999
                                                                                                                                                                                                                                                                                                                    Chimeric; E6; E7; fusion protein; CLYTA; vaccine; immunotherapy; tumour; lesion; benign; malignant; virus; infection; ss.
                                                                                                                                                                                                                                                                                                                                                      CLYTA-E6E7-His coding sequence
                                                                                                                                                                                                                                                                                                                                                                             17-OCT-2003
22-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                      AAX29786 standard; DNA; 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Composition comprising an E6, E7 or E6/E7 fusion protein from HPV to induce immune response to HPV.
                                                                                                                                                                         22-AUG-1997;
                                                                                                                                                                                                                                               WO9910375-A2
                                                                                                                                                                                                                                                                      Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 preventing or treating HPV induced tumours
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example
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                                                                                                                                                  (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS.
                                                                                                                                                                                                                                                                                                                  lesion; benign; malignant; virus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (SMIK ) SMITHKLINE BEECHAM BIOLOGICALS
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28; Conserv
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(first entry)
                                                                                                                                                                                                                                                                                pneumoniae.
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Pred. No. 0.0
); Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           276 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           288 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0.038;
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                                                                                                                            Gerard
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                                                      useful
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                                                         vaccines for
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This sequence represents the coding region for a chimeric E6 or

E7

Disclosure; Fig 14; 95pp; English.

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RESULT 45
AED52645
ID AED52
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Best Local S
Matches 28
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P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein or B6/E7 fusion protein from Human papillomavirus (HPV) linked t an immunological fusion partner, in this case, a fragment of the Streptococcus pneumoniae CLYTA protein. The sequence also contains a histidine tag at the C-terminus of the encoded protein. The protein can be used in a vaccine, for immuno-therapeutically treating HPV induced tumour lesions (benign or malignant) and preventing HPV viral infection. (Updated on 17-OCT-2003 to standardise OS field)
                       The invention relates to human Papilloma virus (HPV) fusion proteins, linked to an immunological fusion partner that provides T helper epitopes to the HPV antigen. Vaccine formulations comprising the fusion proteins are useful in the treatment or prophylaxis of HPV induced lesions (papillomas, warts and cervical cancer). HPV 16 (and HPV 18) B6 and E7 proteins (singly, as an E6-E7 fusion or mutated) were fused to either Haemophilus influenzae D protein (20-127), the C-terminus of Streptococcus pneumoniae Lyth protein (CLyth) or thioredoxin. The present sequence encodes an HPV-Lyth, fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Streptococcus pneumoniae. Human papillomavirus type Synthetic. Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1173 BP;
 Sequence 1173 BP;
                                                                                                                                                                   Example 12; Fig 14; 96pp; English
                                                                                                                                                                                                                                                                                                                                                   24-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pusion protein; vaccine; virucide; uterine cervix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fusion protein cLytA-E6-E7-His/HPV16, DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AED52645;
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                                                                                                                                                                                                                                                                                                                         22-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                              04-MAR-2005
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                                                                                                                                                                                                                                                                                              (SMIK)
                                                                                                                                                                                                                          2005-557648/57.
DB; AED52646.
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                                                                                                                                                                                                                                                                                              SMITHKLINE BEECHAM BIOLOGICALS
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                                                                                                                                                                                                                                                                                                                                                   98IN-CH001903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                    /product= "Fusion protein cLytA-E6-E7-His/HPV16"
380 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        380 A; 229 C; 276 G; 288 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA; 1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   g)
 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             papilloma;
tumor; E7;
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C; 276 G; 288 T; 0
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
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U; 0 Other
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RESULT 46
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Human papillomavirus type 16.

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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                              be used to cleave HPV or to detect HPV in human tissue. The ribozymes cleave HPV to lower the production of the 86 and 87 proteins which play a key role in keratinocyte transformation. They can be used for the treatment of HPV infections which are associated with genital warts and genital neoplasms. In particular they can be used for the treatment of cancer optionally with other agents such as cisplatin. Ribozymes are described in AAT40306-T40315. (Updated on 27-AUG-2003 to correct OS field.)
               Complete genome; circular; human papillomavirus type 16; HPV16 cervical dysplasia; cervical cancer; cervical smear; ds.
                                                                                                                                                                                                                                                                                                                                                    Sequence 7902 BP; 2601 A; 1376 C; 1507 G; 2418 T;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Synthetic ribozyme(s) for human papilloma virus (HPV) - useful in treatment of cervical cancer and in detection of HPV.
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02-JAN-1997
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                                                         Human papillomavirus type 16 E6 variant nucleotide sequence
                                                                                                                                                             AAT94724 standard; DNA; 7904 BP
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                                                                                                                                                                                                                                    368 GAACAGCAATACAACAAACCGTTGTGTG 395
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Methods have been developed for distinguishing papilloma virus (HPV) that is associated with a
                       Claim 1; Col 15-24; 33pp; English.
                                      Evaluating risk of cervical dysplasia or cervical cancer - by detecting variant form of human papilloma virus 16.
                                                                        WPI; 1997-525714/48.
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/note= "L1 ORF from 5526 to 7154; putative"
/260. .7265
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/note= "L2 ORF from 4133 to 5656; putative"
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note = "E2 ORF from 2725 to 3852;
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note= "E1 interrupted ORF from 859
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note= "E7 ORF 544 to 858; putative"
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(1) preparing a cervical sample to expose any HPV-16 E6 gene in the gene and determining if the base at position 350 of the E6 gene (see AAT94723 and AAT94724 for comparison) is T or G, where the presence of G at position 350 is associated with an increased risk of developing cervical dysplasia or cervical cancer; and (2) preparing a cervical cancer and (3) preparing a cervical cancer and (4) preparing a cervical cancer and (4) preparing a cervical cancer and (5) preparing a cervical cancer and AAW35741 for comparison) is Val or Leu, where the presence of Val at C position 83 that is associated with an increased risk of developing cervical dysplasia or cervical cancer. The present sequence represents the variant nucleotide sequence for HPV-16 E6. The 350G variant correlates well with Pap scores: 350T:350G ratios among 45 HPV16 samples were 10.4 for negative Pap scores; 4:2 for CIN I, 1:6 for CIN II; 2:9 for CIN III; 0:3 for cancer. (Updated on 25-MAR-2003 to correct PF field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local &
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Complete genome; circular; human papillomavirus type 16; HPV16 E6; cervical dysplasia; cervical cancer; cervical smear; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25-MAR-2003
16-FEB-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAT94723;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TATA_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TATA_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human papillomavirus type 16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human papillomavirus type 16 E6 complete genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAT94723 standard; DNA; 7904 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 7904 BP; 2601 A; 1377 C; 1510 G; 2416 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAACAGCAATACAACAAACCGTTGTGTG 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag= 65. .71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /*tag=
                        /product= "E4"
/note= "E4 ORF from 3332 to 3619; putative"
                                                                                                                                       /*tag= g
product= "E2_regulatory_protein"
note= "E2_ORF from 2725 to 3852; putative"
                                                                                                                                                                                                                                                         product= "El_replication_protein"
note= "El_interrupted ORF from 859 to 2813; putative"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   note= "Mutated
in the variant"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   product=
                                                                                                                                                                                                                                                                                                                                                                              product= "E7 transforming protein" note= "E7 ORF 544 to 858; putative"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               *tag= c
                                                                                                                                                                                                                                                                                                                                                     65. .2813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                *tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           note= "E6
                                                                                                                                                                                                                             755. .3852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 28; D
100.0%; Pred. No. 0.
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . 559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . 858
                                                                                                              .3619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "E6 transforming protein" ORF from 65 to 559; puta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 from the normal T (as in this case)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 2;
0.047;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <u>.</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        putative"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
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RESULT 50 AAX33881

RXU

AAX33881;

AAX33881 standard; DNA; 7904 BP.

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CC (1) preparing a cervical sample to expose any HPV-16 E6 gene in the CC sample and determining if the base at position 350 of the E6 gene (see CC AAT94723 and AAT94724 for comparison) is T or G, where the presence of G CC at position 350 is associated with an increased risk of developing CC cervical dysplasia or cervical cancer; and (2) preparing a cervical CC sample to expose any HPV-16 E6 protein (see position 90 in AAW35741 CC sample to expose any HPV-16 E6 protein (see position 90 in AAW35741 CC and AAW35742 for comparison) is Val or Leu, where the presence of Val at CC position 83 that is associated with an increased risk of developing CC cervical dysplasia or cervical cancer. The present sequence represents CC the reference nucleotide sequence for HPV-16 E6. The 350G variant CC correlates well with Pap scores; 350T:350G ratios among 45 HPV16 samples CC cervical for negative Pap scores; 4:2 for CIN I, 1:6 for CIN II; 2:9 for CIN III; 0:3 for cancer. (Updated on 25-MAR-2003 to correct PP field.)
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                                                             Matches
                                                                          Query Match
Best Local Similarity
                                                                                                                       Sequence 7904 BP; 2601 A; 1377 C; 1509 G; 2417 T; 0 U; 0 Other:
                                                                                                                                                                                                                                                                                                                                                                                                 Methods have been developed for distinguishing a subset of human papilloma virus (HPV) that is associated with an increased risk of
                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Col 9-16; 33pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Evaluating risk of cervical dysplasia variant form of human papilloma virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1997-525714/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-SEP-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-OCT-1997
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  polyA_signal
                                                                                                                                                                                                                                                                                                                                                                   developing cervical dysplasia or cervical cancer. The methods involve: (1) preparing a cervical sample to expose any HPV-16 E6 gene in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P-PSDB; AAW35741.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wheeler CM,
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368 GAACAGCAATACAACAAACCGTTGTGTG 395
                                                           28;
                             1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Parmenter CA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93US-00127906.
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/note= "Putative"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product= "E5"
/note= "E5 ORF from 3863 to 4099; putative"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product= "L1 major capsid protein"
/note= "L1 ORF from 5526 to 7154; putative"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /product= "L2 minor_capsid_protein"
/note= "L2 ORF from 4133 to 5656; putative"
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                                                                          100.0%; Score 28; DB 2; 100.0%; Pred. No. 0.047;
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                                                           0;
                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                or cervical cancer - 16.
                                                                                            2;
                                                               0
                                                                                           Length 7904;
                                                               Indels
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Search completed: May 24, 2006, 05:56:28 Job time: 335.037 secs
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                                                                                                                            Query Match
Best Local S
Matches 28
                                                                                                                                                                                                                  This sequence represents a sequence from the HPV-16 genome. This invention relates to antisense oligonuclectide analogs (ONs) that have a sequence complementary to a sequence of nucleotides 415-445 of human papilloma virus-16 (HPV-16). The antisense ONs can be used to inhibit expression of HPV gene E6/E7 in living cells, preferably human keratinocytes or human cervical cells. They bind to E6/E7 mRNA in the cell, prevent mRNA translation and promote mRNA degradation by intracellular RNase H. They can be used for preventing transformation of living cells by HPV. The antisense ONs are used particularly for inhibiting the growth of cervical tumours. (Updated on 17-OCT-2003 to standardise OS field)
                                                                                                                                                                                       Sequence 7904 BP; 2601 A; 1377 C; 1509 G; 2417 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          03-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO9913071-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human papillomavirus type 16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HPV-16; inhibitor; antisense oligonucleotide; keratinocyte; cervical cell; cervical tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HPV-16 genomic sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-OCT-2003
25-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page 28-32; 40pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              New antisense oligonucleotide analogs for inhibiting growth of cervical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1999-243727/20.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Dipaolo J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-MAR-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                368 GAACAGCAATACAACAAACCGTTGTGTG
                                                                               1 GAACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                            28;
                                                                                                                                            Similarity
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                                                                                                                        100.0%; Score 28; DB 2; Length 7904; ilarity 100.0%; Pred. No. 0.047; Conservative 0; Mismatches 0; Indels
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                                                                395
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PCR primer;
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beta-actin; ss.
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Maximum
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Perfect score:
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 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Match
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28
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  27959665780 residues
BQ106475
BZ680296
DE210433
CNS03AIR
BZ31277
AZ412297
BZ314774
CC274336
AQ075030
AQ265336
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BZ314776822
BZ316182
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BQ106475 fc2102.e
BZ680296 PUBCT90TD
DE210433 Branchios
AL235260 Tetraodon
BZ321278 hz21g05.g
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BZ314774 hz21g05.b
CC274364 CH261-20G
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CT237387 SuB_scrof
BG776822 6072644002
BE306182 601101310
BG512658 dad31b04.
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CC7349731
BW085832
CC16427165
CCA0642996
CCA066575
CCA0642996
CCA0667107
BW087205
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BW087205
DE03925119
BW087206
CCA104695
DE03925119
BQ6270107
BQ62701
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CV232583 w80198 BA
CV232583 w80198 BA
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CCP234787 PCAJXT001
CC749731 OC_BA008764
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BW085832 BW085832
BW085832 BW085832
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CA056575 SBA1rgb53
CA056677 BA01766 EST_BA11
CA064299 BBA1rgb53
CCB043120 OGUNG20TV
CC2104695 OM_BA011
DE039251 BY30066 y
BQ627018 DY30066 y
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BU153495 6C3107192
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BU153495 6C3107192
BU153496 BY677838
CU271345 CU271945
BU25366 BY675868
BY697838 BY507838
CU271145 CU2711945
BU76342 AV764126
AV76342 AV763142
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AV76342 AV763142
BU785603 CGCBP55TC
DE003261 BY301319
BZ65036 CGCBP5TC
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;

rosids; eurosids I. Rosales; Rosaceae; Rosoideae; Rosa.

1 (bases 1 to 244)

1 (bases 1 to 244)
                                                                 Faculty of Agricultural, Food and Environmental Quality Sciences, The Hebrew University of Jerusalem P.O. Box 12, Rehovot, 76100, Israel Tel: 972 8 9489 683 Fax: 972 8 9468 265
                                                                                                                                                                                                                                                             BQ106475 244 bp mRNA linear EST 16-APR-20 fc2102.e Rose Petals (Fragrant Cloud) Lambda Zap Express Library Rosa hybrid cultivar cDNA clone fc2102.e 5', mRNA sequence.
                                                                                                                  Plant Cell 14 (10), :
Contact: Naama Menda
                                                                                                                                   Rose Scent: Genomics Approach to Discovering Novel Floral Fragrance-Related Genes
                                                                                                                                                           Guterman,I., Shalit,M., Menda,N., Piestun,D., Dafny-Yelin,M.,
Shalev,G., Bar,E., Davydov,O., Ovadis,M., Emanuel,M., Wang,J.
Adam,Z., Pichersky,E., Lewinsohn,E., Zamir,D., Vainstein,A. a
                                                                                                                                                                                                                                Rosa hybrid cultivar
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                                               il: shaham@agri.huji.ac.il
primer: T3 forward.
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      organism="Rosa hybrid cultivar"
|mol_type="mRNA"
|strain="Fragrant Cloud"
xref="taxon:128735"
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BF287189
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CZ079176 OM_Ba007
BQ146350 NF047803P
BQ146350 NF047803P
DW294675 LRAGE0675
DW297618 LRAGE0604
CC178214 XC289 Bay
DW300401 LRAGE0622
CZ0778596 OM_Ba007
AA958500 ual3604.r
BI395675 EST531546
CV676083 mu44f04.k
AI703827 UI-R-AC1-AA899011 UI-R-BC-d
CCB377556 CMAE1_38_
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AW23890 xp24f08.x
AV150166 AV150166
BE678370 df54h03.x
CF609345 INFIO01 0
CZ668582 OM B602
CK401544 pBU16 Mou
BJ743794 BJ743794
AL838713 AL838713
BB244244 BB24424
AW919651 EST350955
AII04033 EST21322
DW31196 LRAGE0447
DW311974 LRAGE0447
DW311974 AV025034
BR659910 GW7000108
BP287189 EST451780
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Vainstein,A. and
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sequence.
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DE210433.1
GSS.
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BZ680296
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1 (bases 1 to 212)
Whitelaw, C.A., Quackenbush, J., Van Aken, S., Utterback, T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 GAACAGCAATACAACAAACCGTTGTGTG 28
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                                                                      Branchiostoma
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Email: whitelaw@tigr.org
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/dev stage="Young open flower at stage four"
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Express Library"
/note="Vector: pBKCMV; Site_1: EcoRI; Site_2: XhoI"
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/mol_type="genomic DNA"
/strain="B73"
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                                                                                                                                                                                                                                                                77.9%;
92.0%;
                                                                      floridae DNA, clone:
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100.0%; Pred. No.
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Pred. No. 99;
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0.19;
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                                                                  DNA linear GSS 19-AUG-2005
CH302-100_A12_TJ, genomic survey
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                                                                                                                                                                                                                                                                                                            GSS; genome survey sequence. Tetraodon nigroviridis
Tetraodon nigroviridis
Tetraodon nigroviridis
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Ratinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei; Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes; Tetraodontoidea; Tetraodontidae; Tetraodon.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CNSUBAIR 953 bp DNA linear GSS 01-SEP-2000 Tetraodon nigroviridis genome survey sequence T7 end of clone 010015 of library G from Tetraodon nigroviridis, genomic survey
Fizames, C., Fischer, C., Bouneau, L., Billault, A., Quetier, F., Saurin, W., Bernot, A. and Weissenbach, J.
Characterization and repeat analysis of the compact genome of the freshwater pufferfish Tetracdon nigroviridis
Genome Res. 10 (7), 939-949 (2000)
                                                                                                                                                            Roest Crollius, H., Jaillon, O., Dasilva, C., Bouneau, L., Fisher, C
Bernot, A., Fizames, C., Wincker, P., Brottier, P., Quetier, F.,
Saurin, W. and Weissenberneumber
Estimate of human gene number provided by genome-wide analysis
using Tetracdon nigroviridis DNA sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1-7-22 Suehiro-chou,Tsurumi-ku, Yokohama, Kanagawa, 230-0045, Japan
(E-mail:afujiyam@gsc.riken.jp, URL:http://stt.gsc.riken.jp/,
751:01-45-503-9111, Fax:81-45-503-9170)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (12-AUG-2005) Asao Fujiyama, The Institute of Physical and Chemical Research (RIKEN), Genomic Sciences Center (GSC);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Published Only in Database (2005)
2 (bases 1 to 677)
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Branchiostoma floridae
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AL235260.1 GI:7894395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fujiyama,A.
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                                                                              Roest Crollius, H., Jaillon, O., Dasilva, C., Ozouf-
Fizames, C., Fischer, C., Bouneau, L., Billault, A.,
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/clone_lib="CHORIO302 Amphioxus genomic BAC library"
/note="common name:amphioxus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /mol_type="genomic DNA"
/db_xref="taxon:7739"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                organism="Branchiostoma
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: ECORI.
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This sequence is a single read and was generated as scale clone-end sequencing project of the Tetraodon genome. For more information, please take a look at http://www.genoscope.cns.fr/Tetraodon.
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BP 191 91006 EVRY cedex - FRANCE (E-mail : segref@genos
- Web : www.genoscope.cns.fr)
                                                                                                                                                                                                                                                                                                                Lita Annenberg Hazen Genome Sequencing Center Cold Spring Harbor Laboratory PO Box 100, Cold Spring Harbor, NY 11724, USA Tel: 516 367 8884 Fax: 516 367 8874
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genomic clone hz21g05
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                                                                                                                                                                                                                                                             Email: mccombie@cshl.org
Plate: hz21 row: g column:
Seq primer: -21M13UnivRev
                                                                                                                                                                                                                                                                                                                                                                                                              Contact: W. Richard McCombie
                                                                                                                                                                                                                                                                                                                                                                                                                                 Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rabinowicz, P.D., O'Shaughnessy, A.L., Balija, V., Dedhia, N. Katzenburger, F., King, L., Miller, B., Muller, S., Nasciment Zutavern, T., McCombie, W.R. and Martienssen, R.A. Genomic shotgun sequences from Zea mays (methyl-filtered)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Zea mays
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GSS.
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                                                                                                                                                                                                      quality sequence stop: 527.
Location/Qualifiers
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/clone_lib="WGS-ZmaysF (JM107 adapted methyl filtered)"
/note="Organ: immature ears; Site 1: Xba I; Site 2: Xba
The vector was digested with XbaI and one nucleotide was
added by fill in in the recessive 3' end. The genomic I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Tetraodon nigroviridis"
|mol type="genomic DNA"
|db xref="texoon:99883"
|/clone="010C15"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone_lib="G"
/note="Genoscope sequence
end : T7"
                                                                        /clone="hz21g05"
/lab_host="JM107 or DH5a"
                                                                                                                             /mol_type="genomic DNA"
/cultivar="B73"
                                                                                                             db_xref="taxon:4577"
                                                                                                                                                                organism="Zea mays"
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88.5%;
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5', genomic survey sequence.
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Pred. No. 2.1e+02
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nigroviridis
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1) Zea mays
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1 (bases 1 to 532)

Dunn, D., Aoyagi, A., Barber, M., Beacorn, T., Duval, B., Hamil, C., Islam, H., Longacre, S., Mahmoud, M., Meenen, E., Pedersen, T., Reilly, M., Rose, M., Tingey, A., von Niederhausern, A. and Wright, D., Welse, R., Tingey, A., von Niederhausern, A. and Wright, D., Welse, R., Mahmoud, M., Meenen, B., Von Niederhausern, A. and Wright, D., Welse, R., Stockes, R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   532 bp DNA linear GSS 03-OCT-20 1M0185M08R Mouse 10kb plasmid UUGC1M library Mus musculus genomic clone UUGC1M0185M08 R, genomic survey sequence AZ412297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Imail: ddunn@genetics.utah.edu
Insert Length: 10000 Std Error: 0.00
Plate: 0185 row: M column: 08
Seq primer: CACACAGGAAACAGCTATGACC
Class: plasmid ends
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 GAACAGCAATACAACAAACCGTTGTGT 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            plasmid inserts
Unpublished (2000)
Contact: Robert B. Weiss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tel: 801 585 5606
Fax: 801 585 7177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    University of Utah Genome University of Utah
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus
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AZ412297.1 GI:10536310
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USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         quality sequence stop: 532.
Location/Qualifiers
/lab host="E. Coli strain XL10-Gold, T1-resistant, F-"
/clone lib="Mouse 10kb plasmid UUGCIM library"
/note="Vector: PMD42nv; Purified genomic DNA from M.
musculus C57BL/6J (male) was obtained from the Jackson
Laboratory Mouse DNA Resource
(http://www.jax.org/resources/documents/dnares/). The DNA
was hydrodynamically sheared by repeated passage through a
0.005 inch orifice at constant velocity. The sheared DNA
was blunt end-repaired with T4 DNA polymerase and T4
polynucleotide kinase. Adaptor oligonucleotides were
ligated to the blunt ends in high molar excess. The
adaptored DNA was purified and size-selected for a 9.5 to
10.5 kb range using preparative agarose gel
electrophoresis. Vector DNA was prepared from a derivative
of pWD42 (gi|4732114|gb|AF129072.1), a copy-number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           was nebulized, end repaired, adaptor ligated and size fractionated using sephadex. The resulting fragments we between 0.8 and 3 kb and were cloned into the vector (.x/y reads in M13mpl9, .b/g reads in pUC19). The same ligation was transformed in either JM107 or DH5a.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /mol_type="genomic DNA"
/strain="C57BL/6J"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   clone="UUGC1M0185M08"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sex="Male"
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85.2%;
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VERSION
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BZ314774/c
                                                                                                                                                                   ORIGIN
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                                                                                  Matches
                                                                                                      Best Local
                                                                                                                        Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
381
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                                         1 GAACAGCAATACAACAAACCGTTGTGT 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    600 bp DNA linear Gi
hz21g05.bl WGS-ZmaysF (JM107 adapted methyl filtered)
genomic clone hz21g05 5', genomic survey sequence.
EZ314774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 AACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Plate: hz21 row: g column: 05
Seq primer: -21M13UnivFwd
Class: shotgun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tel: 516 367 8884 Fax: 516 367 8874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lita Annenberg Hazen Genome Sequencing Center
Cold Spring Harbor Laboratory
PO Box 100, Cold Spring Harbor, NY 11724, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (2002)
Contact: W. Richard McCombie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rabinowicz,P.D., O'Shaughnessy,A.L., Balija,V., Dedhia,N. Katzenburger,F., King,L., Miller,B., Muller,S., Nasciment Zutavern,T., McCombie,W.R. and Martienssen,R.A. Genomic shotgun sequences from Zea mays (methyl-filtered)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD
clade; Panicoideae; Andropogoneae; Zea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zea mays
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GSS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                High quality
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: mccombie@cshl.org
                                                                                                      Similarity
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                                                                                  Conservative
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                                                                                                                                                                                  /lab host="Jong" or DH5a"
/clone lib="WGS-ZmaysF (JM107 adapted methyl filtered)"
/note="Organ: immature ears; Site 1: Xba I; Site 2: Xba I;
The vector was digested with XbaI and one nucleotide was added by fill in in the recessive 3' end. The genomic DNA was nebulized, end repaired, adaptor ligated and size fractionated using sephadex. The resulting fragments were between 0.8 and 3 kb and were cloned into the vector (.x/y reads in M13mp19, .b/g reads in pUC19). The same ligation was transformed in either JM107 or DH5a. "
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adaptored DNA was annealed to adaptored vector DNA, and transformed Into chemically-competent E. coli XL10-Gold (Stratagene) cells and selected for ampicillin resistance."
                                                                                                                                                                                                                                                                                                                                                                                                                                           /mol_type="genomic DNA"
/cultivar="B73"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ity sequence stop:
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref="taxon:4577"
/clone="hz21g05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                organism="Zea mays"
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                                                                                                    73.6%;
85.2%;
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85.2%;
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                                                                                                    Score 20.6;
Pred. No. 3
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Pred. No. 3.
                                                                                  Mismatches
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                                                                                                                        Length
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                                                                                                                            600;
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ORGANISM
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CC274364/c
                                                                                                   REFERENCE
AUTHORS
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ORGANISM
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VERSION
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AQ075030/c
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  JOURNAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                         422
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: submissions@watson.wustl.edu
Insert Length: 182000 Std Error: 0.00
Seq primer: Sp6 ATTTAGGTGACACTATAG
Class: BAC ends
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CC274364 1058 bp DNA linear GSS 13-MA: CH261-20G8_Sp6.1 CH261 Gallus gallus genomic clone CH261-20G8_genomic survey sequence.
Use of a random human BAC End Sequence Database for Sequence-Ready Map Building Unpublished (1998)
                                                                                                                                                                                                                                                       genomic survey sequence.
AQ075030
AQ075030.1 GI:3435601
                                                                                                                                                                                                                                                                                                                   AQ075030 207 bp
CIT-HSP-2364011.TR CIT-HSP Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genome Sequencing Center
Washington University School of Medicine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae; Gallus.

1 (bases 1 to 1058)

1 (bases 1 to 1058)

Kremitzki,C., Higginbotham,J., Wylie,K., Carter,J., McPherson,J., Warren,W., Graves,T., Mardis,E. and Wilson,R.

Gallus gallus BAC End Reads

Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gallus gallus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gallus gallus (chicken)
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                                                                          1 (bases 1 to 207)
Adams, M.D., Rounsley, S.D., Zha
Berry, K., Granger, D., Suh, E.,
                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
                                                                                                                                                                                                  Homo
                                                                                                                                                                                                                    Homo sapiens (human)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
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Location/Qualifiers
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                                                                                                                                                                                                  sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note="Vector: pTARBAC2.1; Site 1: EcoRI; Site 2: EcoRI; CH261 Female Chicken library - For library and clone ordering information: http://www.chori.org/bacpac"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Gallus gallus"
/mol_type="genomic DNA"
/strain="Red Jungle Fowl"
/db_xref="taxon:9031"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /cell_line="UCD001, inbred
/clone_lib="CH261"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone="CH261-20G8"
/sex="female"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        73.6%;
85.2%;
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Pred. No. 3.8e
0; Mismatches
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                                                                            Zhao,S., Bass,S., Linher,K.,
E., Wible,C., Shizuya,H., Simo
                                                                                                                                                                                                                                                                                                                   sapiens genomic clone 2364011,
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                                                                                Golden, K., on, M. and
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RESULT 10
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The Institute for Genomic Research
9712 Medical Center Dr., Rockville,
Tel: 301 838 0208
Fax: 301 838 0208
                                                                                                                                                                                                                                    Unpublished (1998)
Other GSSs: CITBI-E1-2506L6.TR
Contact: Mark Adams
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 GAACAGCAATACAACCAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (human)
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AQ265336.1 GI:3793536
GSS
                                                                                           end search page:
http://www.tigr.org/tdb/humgen/bac_end_search/bac_end_search.html.
Seq primer: M13-21
Class: BAC ends.
                                                                                                                                                                                                                                                                                                                                                                                                1 (bases 1 to 593)
Adams, M.D., Rounsley, S.D., Zhao, S., Bass, S., Berry, K., Granger, D., Suh, E., Wible, C., Shizi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AQ265336 593 bp DNA linear GSS 27-OCT CITBI-E1-2506L6.TF CITBI-E1 Homo sapiens genomic clone 2506L6.
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Seq_primer: M13 Reverse
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                                                                                                                                                                                                      Tel: 301 838 0200
Fax: 301 838 0208
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                                                                                                                                                                                                                                                                                                                                                                      Use of
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hominidae; Homo.
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            genomic survey sequence
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Clones are available from Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Mark Adams
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Other GSSs: CIT-HSP-2364011.TF
                                                                                                                                                                 Clones are available from Research Genetics (info@resgen.com). BAC
                                                                                                                                                                                                                                                                                                                                                                                         Venter, J.C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                   Smail: mdadams@tigr.org
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                                                                                                                                                                                                                                                                                                                                                                      a random human BAC End Sequence Database for Sequence-Ready
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/organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /cell_type="Sperm"
/clone_lib="CIT-HSP"
/note="Vector: pBeloBAC11; Site_1: HindIII; Site_2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
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82.1%;
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Pred. No.
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. 6.1e+02;
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Shizuya,H., Simon,M. and
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 349
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Use of BAC End Sequences from Library RPCI-11 for Sequence-Ready
Map Building
Unpublished (1997)
Other GSSs: RPCI-11-281E13.TV
Contact: Shaying Zhao, William Nierman, Mark Adams
Department of Eukaryotic Genomics
The Institute for Genomic Research
                                                                                                                                                                                                                                                                                                                                                                                                                               Email: hbe@tigr.org
Clones are derived from the human BAC library RPCI-11. For BAC
library availability, please contact Pieter de Jong
(pieter@dejong.med.buffalo.edu). Clones may be purchased from
BACPAC Resources (http://bacpac.med.buffalo.edu/ordering) or from
Research Genet cs (info@resgen.com). BAC end search page:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 GAACAGCAATACAACCAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9712 Medical Center Dr., Rockville, Tel: 301 838 0200 Fax: 301 838 0208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AQ505344 675 bp DNA RPCI-11-281E13.TJ RPCI-11 Homo sapiens g RPCI-11-281E13, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                 http://www.tigr.org/tdb/humgen/bac_end_search/bac_
Seq_primer: SP6
Class: BAC ends.
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Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
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1 (bases 1 to 675)
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                                                                                                                                                       /clone_lib="RPCI-11"
/note="Vector: pBACe3.6; Site_1:
RPCI11 Human Male BAC Library"
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/clone_lib="CITBI-B1"
/note="Vector: pBeloBAC11; Site_1: EcoRI; Site_2: EcoRI;
CalTech Human BAC Library D"
                                                                                                                                                                                                                                                                     /mol_type="genomic DNA"
/db_xref="GDB:7607628"
/db_xref="taxon:9606"
                                                                                                                                                                                             cell_type="Lymphocytes"
/clone_lib="RPCI-11"
                                                                                                                                                                                                                                                                                                                                                             cation/Qualifiers
                                                                                                                                                                                                                                       'sex≖"Male"
                                                                                                                                                                                                                                                    'clone="RPCI-11-281E13"
                                                                                                                                                                                                                                                                                                                          organism="Homo sapiens"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="2506L6"
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82.1%;
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Pred. No. 6.7e.
0; Mismatches
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Pred.
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. 6.7e+02;
                                                                                     6.7e+02;
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RESULT 13
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DEFINITION
ACCESSION
VERSION
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AUTHORS
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Best Local Similarity
Matches 23; Conserv
                                       ORGANISM
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                                                                          CT237387
Sus scrofa genomic clone C CT237387
CT237387.1 GI:79744191
GSS. CT65 (545)
                                     Sus scrofa
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Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA Sequencing: DOE Joint Genome Institute: http://www.jgi.doe.gov Naming Conventions: EST name is generated by the concatenation of the JGI Clone Id and the direction of sequencing. The suffix '.fwd' indicates a forward sequencing read of the insert. It does not necessarily reflect the orientation of the insert.

Plate: AOKF 0005 row: a column: 16
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DOE Joint Genome Institite
2800 Mitchell Drive, Walnut Creek,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished (2005)
Other_ESTs: JGI_AOKF633.rev
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JGI AOKF633.fwd AOKF Acropora palmata
cDNA clone AOKF633 5', mRNA sequence.
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Suina; Suida
                                                           Sus scrofa (pig)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Schwarz, J.A., Brokstein, P., Manohar, C.,
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1 (bases 1 to 762)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  http://www.jgi.doe.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cDNA Library Preparation: DOE Joint Genome Institute:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tel: 925-296-5823
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          /dev stage="Freshly spawned eggs"
/lab_host="ElectroMAX DH108"
/lab_host="ElectroMAX DH108"
/clone lib="AOKF Acropora palmata spawned eggs"
/clone lib="AOKF Acropora palmata spawned eggs"
/note="Vector: pDNR-LIB; Site_1: SfiI; Site_2: SfiI; The
library was prepared from total RNA using the Creator
SMART CDNA Library Construction Kit with the LD-PCR method
to amplify the cDNA. Amplified cDNA was digested with
SfiI; size selected for >400bp, and ligated into the
pDNR-LIB vector."
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/db_xref="taxon:6131"
/clone="AOKF633"
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palmata spawned eggs Acropora palmata
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Suina; Suidae;
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This sequence was generated from the T7 end of BAC 181F11. 181F11 is part of the CHORI-242 BAC Library created by P. de Jong. Further details: http://www.sanger.ac.uk/Projects/S_scrofa/.
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Direct Submission
Submitted (01-NOV-2005) The Sanger Institute, W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov Tissue Procurement: ATCC
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Mammalia; Eutheria;
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
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Plate: LLCM1663 row: d column: 02
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/clone="IMAGE:4809169"
/tissue_type="mucoepidermoid carcinoma"
/lab_host="DH10B (Tl phage-resistant)"
/clone_lib="NIH_MGC_59"
/clone_lib="NIH_MGC_59"
/note="Organ: lung; Vector: pDNR-LIB (Clontech); Site_1:
Sfil (ggcgcctcggcc); Site_2: Sfil (ggcattatggcc);
Double-stranded cDNA was prepared from cell line RNA. 5'
and 3' adaptors were used in cloning as follows: 5'
adaptor sequence: 5'-CACGGCCATTATGGCC-3' and 3' adaptor
sequence: 5'-ATTCTAGAGGCCGAGCCGGCCGACATG-dT(30)BN-3'
representations of the strands of the sequence of t
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/db xref="taxon:9823"
/clone="CH242-181F11"
/clssue_type="White blood cells"
/note=""ector pTARBAC1.3_BamHI
/note="vector pTARBAC1.3_BamHI
                                                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tissue Procurement: Gilbert Smith, Ph.D.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.B. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                High quality sequence stop:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mammalia; Eutheria; Euarchontoglires;
Sciurognathi; Muroidea; Muridae; Muri
1 (bases 1 to 1531)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus (house mouse)
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EST.
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                                                                                                GAACAGCAATACAACAAACCGTTGTGTG 28
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                                                                                                                                              Conservative
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                                                                                                                                                                                                                                 /clone_lib="NCI_CGAP_Lu29"
/note="Organ: lung; Vector: pcMV-SPORT6; Site_1: Sal1;
/note="Organ: lung; Vector: pcMV-SPORT6; Site_1: Oligo dT.
Site_2: NotI; Cloned unidirectionally. Primer: Oligo dT.
Library constructed by Life Technologies. Investigator
providing samples: Gilbert Smith, NIH"
                                                                                                                                                                                                                                                                                                                                             /tissue_type="spontaneous tumor, stem cell origin."
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                     clone="IMAGE:3493587"
                                                                                                                                                                                                                                                                                                                                                                                                    db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                       strain="Czech II"
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                                                                                                                                                                                                                                                                                                                                lab_host="DH10B"
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Pred. No. 7.2e+02;
0; Mismatches 5
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Pred. No. 6.9e+02;
0; Mismatches
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TITLE
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BP707553
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ORGANISM
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Matches
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    AUTHORS
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;

Xenopodinae; Xenopus; Silurana.
                                                                                                                                                                                                        BP707553 BP707553 Osada Taira anterior neuroectoderm (ANE) pCS105 cDNA library Xenopus laevis cDNA clone XL491g22ex 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WashU Xenopus EST project, 1999
Unpublished (1999)
Other ESTs: dad31b04.y1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   dad31b04.x1 Wellcome CRC pCS107 tropicalis St10-12 Xenopus tropicalis cDNA clone IMAGE:4440919 3' similar to SW:SET_HUWAN
                                                                                                                                                                                         library Xenopus
BP707553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Sandy Clifton, Ph.D.
WashU Xenopus EST project, 1999
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Clifton, S., Johnson, S.L., Blumberg, B., Song, J., Hillier, L., Pape, D., Martin, J., Wylie, T., Underwood, K., Theising, B., Bo Person, B., Gibbons, M., Harvey, N., Ritter, E., Jackson, Y., Mc Waterston, R. and Wilson, R.
Osada, S., Kitayama, A., Ueno, N. and Taira, M
                     Xenopodinae; Xenopus; Xenopus.
1 (bases 1 to 631)
                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                       Xenopus laevis (African clawed Xenopus laevis
                                                                                                                                                                      BP707553.1 GI:46055952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Clone distribution: Xenopus clones from this library are available through the I.M.A.G.E. Consortium/LINI at: info@image.llnl.gov Possible reversed clone: similarity on wrong strand Seq primer: -40UP from Gibco
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Sequencing Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: est@watson.wustl.edu
Library constructed by A. Zorn and J. Mason (Wellcome
Library constructed by B. Zorn and J. Mason (Wellcome
Library Constructed). DNA Sequencing by: Washington University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Xenopus tropicalis (western clawed frog
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Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /tissue_type="whole embryo, stages 10-12"
/lab host="PH10B (phage resistant)"
/clone_lib="Wellcome CRC pCS107 tropicalis St10-12"
/note="Vector: pCS107; Site_1: NotI; Site_2: EcoRI; cDNAs
were oligo-dT primed and directionally cloned. Average
insert size 1.5 kb, range 0.5-4 kb. Library constructed by
A. Zorn and J. Mason (Wellcome/CRC Institute). "
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91.3%;
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Pred. No. 8.1e+02
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                                                                                                                             frog
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McCann, R.,
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AUTHORS
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TITLE
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1 (bases 1 to 637)
Osada,S., Kitayama,A., Ueno,N. and Taira,M.
Expression analysis of genes which are exprineuroectoderm of Xenopus embryos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3 ACAGCAATACAACAAACCGTTGT 25
                                                                                                                                                                               URL: http://www.shigen.nig.ac.jp/nbrp/xenopus/est/
                                                                                                                                                                                                                                                                                       Department of Biological Sciences
Graduate School of Science, University of Tokyo;
Science and Technology Corporation, Japan
7-3-1 Hongo, Bunkyo-ku, Tokyo 113-0033, Japan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Xenopus laevis (African clawed frog)
Xenopus laevis
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Contact: Masanori Taira
                                                                                                                                                                                                                                                                   7-3-1 Hongo, Bunkyo-
Tel: 81-03-5841-4434
                                                                                                                                                                                                                                                                                                                                                                                  Contact: Masanori Taira
                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished (2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Department of Biological Sciences
Graduate School of Science, University of Tokyo; CREST, Japan
                                                                                                                                                                                                                                                     Fax: 81-03-5841-4434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BP700663 Osada Taira anterior neuroectoderm (ANE)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone="XL491g22ex"
/tissue_type="anterior neuroectoderm"
/tessue_type="late gastrula (stage 12.5)"
/dev_stage="late gastrula (stage 12.5)"
/clone_lib="Osada Taira anterior neuroecpcS105"
pCS105"
cDNA library"
/clone="XI490g22ex"
/tissue_type="anterior neuroectoderm"
/dev_stage="late gastrula (stage 12.5)"
/clone_lib="Osada Taira anterior neuroectoderm (ANE)
                                                                                       /organism="Xenopus laevis"
/mol_type="mRNA"
/db_xref="taxon:8355"
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91.3%;
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 Mismatches

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Pred. No. 8
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PCS105 cDNA
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Score 19.8;

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CO382721/c
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                         Query Match
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       21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Daniela S. Gerhard, Ph.D.
Office of Cancer Genomics
National Cancer Institute / NIH
Bldg. 31 Rm10A07 Bethesda, MD 20892
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Bruce Blumberg
cDNA Library Preparation: B. Blumberg
cDNA Library Arrayed by: The I.M.A.G.B. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ω
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national Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xenopus laevis (African clawed frog)
Xenopus laevis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CO382721 811 bp mRNA linear EST 30-JUI AGENCOURT 26189827 Blumberg Cho dorsal blastopore lip Xenopus laevis cDNA clone IMAGE:7295911 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CO382721
CO382721.1 GI:49490823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Plate: LLAM15318 row: n column: 05
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1 (bases 1 to 811)
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70.7%; ilarity 91.3%; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           quality sequence stop: 639.
Location/Qualifiers
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                                                                                                                                     /clone lib="Blumberg_Cho dorsal blastopore lip"
/clone="Organ: embryo; Vector: pBluescript SK-; Site_1:
EcoRI; Site_2: XhOI; Library was prepared from 50 ug of
total RNA by oligo-dT priming and AMV reverse
transcriptase. After addition of EcoRI linkers and
EcoRI-XhoI digestion, the cDNA was size selected by
chromatography on Sepharose CL-4B columns and fractions
containing cDNAs larger than 500 bp were ligated into
EcoRI-XhoI-digested lambda ZAPII (UniZAP-XR) and packaged
in vitro. Average insert size is 1.4 kb. The original
library contained 6 x 106 recombinants, of which 3 x 106
were amplified and stored at -70 C in SM buffer containing
phagemids used to infect ToplOF. References: Science 253,
196-196 and Methods in Molecular Biology 97, 555-574.
Additional sequences from this library have been deposited
under the name Xenopus laevis dorsal blastopore lip.
Library constructed by Bruce Blumberg (University of
California, Irvine, Department of Developmental and Cell
Riology)."
                                                                                                                         California, Irvine, Biology)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Xenopus laevis"
/mol_type="mRNA"
/db_xref="taxon:8355"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /tissue_type="dorsal blastopore lip"
/lab_host="TOP10"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bex="both"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  clone="IMAGE:7295911"
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Score 19.8; DB 8;
Pred. No. 8.4e+02;
0; Mismatches 2
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0; Mismatches 2
                                              DB 8;
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ACCESSION
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CB500937/c
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                                                                                                                                                                            89
ssalpith003037 head Salmo salar cDNA,
CB500937
CB500937.1 GI:29312163
EST.
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1 (bases 1 to 311)
Renn, S.C., Aubin-Horth, N. and Hofmann, H.A.
Biologically meaningful expression profiling across species using heterologous hybridization to a cDNA microarray
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CN471390 311 bp mRNA linear EST thin Ab Brain2000 000005240 A. burtoni Cichlid Brain cDNA 2000, Russell Fernald Astatotilapia burtoni cDNA clone th Ab Brain2000_000005240 5', mRNA sequence.

CN471390 GI:46491834
                                                                                                                                                                                                               1 GAACAGCAATACAACAAACCGTTGTG 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BACKWARD: CSVP2: TTCCCAGTCACGACGTTGTAAAA Plate: 054 row: E column: 05
Seq primer: CSVP3: AAGCCCGCAATTAACCCTCACTA.
                                                                            CB500937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7 Divinity Avenue,
Tel: 617-384-8058
Fax: 617 495 2196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Hans A. Hofmann
Bauer Center for Genomics Research
Harvard University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Astatotilapia burtoni
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Astatotilapia burtoni
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BACKWARD: CSVP2: TTCCCAGTCACGACGTTGTAAA
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                                                                                                                                                                                                                                                     Conservative
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                                                                                                                                                                                                                                                                                                                                                                                               /dev stage="mixed"
/lab_host="XL1-Blue MRF' E.coli"
/lab_host="XL1-Blue MRF' E.coli"
/clone llb="A. burtoni Cichlid Brain cDNA library 2000,
Russell Fernald"
                                                                                                                                                                                                                                                                                                                                           /note="Vector: pBSIIsk-; Site_1: EcoR1; Site_2: Xho1; mRNA was isolated from the brains of A. burtoni for both sexes at all stages of development and reproductive status."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Astatotilapia
/mol_type="mRNA"
/db_xref="taxon:8153"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /clone="hh Ab_Brain2000_000005240"
/sex="mixed"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
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                                                                                                                                                                                                                                                                   70.0%;
84.6%;
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                                                                                                                                                                                                                                                   <u>.</u>
                                                                                                                                                                                                                                                 Score 19.6; DB 8;
Pred. No. 9.5e+02;
0; Mismatches 4
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                                                            mRNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 ACAGCAATACAACAAACCGTTGTGTG 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Email: bkoop@uvic.ca
Centre for Blomedical Research, University of Victoria cDNA
preparation and sequencing: Roberto Alberto, Marianne
Beetz-Sargent, Maura Busby, Peter Hunt, Linda McKinnel, BF I
bioinformatics: Gordon D Brown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Koop BF
Centre for Biomedical Research
University of Victoria
PO Box 3020 STN CSC, Victoria BC, V8W 3N5, Canada
Tel: 250 472 4067
Fax: 250 472 4075
Trends Genet. (2005) In press
Contact: Ulrich Technau
Sars Centre for Marine Molecular Biology
                                                                             1 (bases 1 to 487)
Technau,U., Rudd,S., Maxwell,P., Gordon,P.M.K., Saina,M.,
Grasso,L.C., Hayward,D.C., Sensen,C.W., Saint,R., Holstein,T.W.,
Ball,E.E. and Miller,D.J.
Maintenance of ancestral complexity and non-metazoan genes in two
                                                                                                                                                                                    Nematostella vectensis
Nematostella vectensis
Eukaryota; Metazoa; Chidaria; Anthozoa; Hexacorallia; Actiniaria;
Edwardsiidae; Nematostella.
                                                                                                                                                                                                                                                                                                                                                  327-384-16_L07_T7 Nematostella vectensis normalized cDNA library 327 Nematostella vectensis cDNA clone 327-384-16_L07_T7, mRNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Salmo salar
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="Vector: pBlueScriptIISK+; Library Creator: Kristian R von Schalburg; Atlantic salmon tissue contributors: Carlo Biagi, Mitch Uh and Robert Devlin (DFO, Vancouver, B.C.), Simon Jones (PBS, Nanaimo, B.C.), Seaspring Hatchery (Crofton, B.C.), Rachel Roper (University of Victoria)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        organism="Salmo salar"
mol_type="mRNA"
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                                                                                                                                                                                                                                                                                             GI:82866851
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one_lib="head"
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84.6%;
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Pred. No. 9.6e+02;
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TITLE
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BE111725
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The sequence contained an oligo-dT track that was present in the oligonucleotide that was used to prime the synthesis of first strand cDNA and therefore this may represent a bonafide poly A tail. The sequence tag present in the cDNA between the NotI site and the oligo-dT track served to identify it as a clone from the normalized ventricle at 16.5 dpc library cDNA Library Preparation: W.B. Soares Lab Clone distribution: clones will be available
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 GAACAGCAATACAACAAACCGTTGTG 26
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UI-R-BJ1-avx-a-12-0-UI.sl UI-R-BJ1 Rattus
UI-R-BJ1-avx-a-12-0-UI 3', mRNA sequence.
BE111795
                                                                                                                                                                                                                                                                                                                                                                                                                 University of Iowa
375 Newton Road, 4156 MEBRF, Iowa City,
Tel: 319 335 8250
Fax: 319 335 9565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eut
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: ulrich.technau@sars.uib.no Plate: 16 row: 7 column: L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          High Technology Building, Thormohlensgt. Tel: +47-55584340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bonaldo, M.F., Lennon, G. and Soares, M.B. Normalization and subtraction: two approaches to facilitate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rattus norvegicus
                                                                                                                                                                    through Research Genetics (www.resgen.com)
                                                                                                                                                                                                                                                                                                                                                                                        Email: bento-soares@uiowa.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Coordinated Laboratory for Computational Genomics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Soares, MB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Genome Res. 6 (9), 791-806 (1996)
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                                                                                                                                       primer: M13 Forward
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/sex="hermaphrodite"
/tissue_type="whole embryos"
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/db_xref="taxon:45351"
/clone="327-384-16_L07
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/organism="Rattus norvegicus"
/mol_type="mRNA"
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84.6%;
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Pred. No. 9.
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/clone="UI-R-BV1-avx-a-12-0-UI" /lab_host="DH108 (Life Technologies)" /clone lib="UI-R-BJ1" /note="Vector: pT7T3D-PacI; Site_1: Not I; Site_2: Eco RI;

strain="Sprague-Dawley"

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RESULT 24
AQ325004/c
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Magnaporthe grisea
Magnaporthe grisea
Eukaryota; Pungi; Ascomycota; Pezizomycotina; Sordariomycetes;
Sordariomycetes incertae sedis; Magnaporthaceae; Magnaporthe.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Clemson University Genomics Institute
Clemson University
100 Jordan Hall, Clemson Universiy, Clemson, SC 29634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Yu,Y., Zhu,H., Boyd,C.A., Gaudette,B., Gayle,A., Kingsbury,k., Phillips,K., Sasinowski,M, Wing,R.A. and Dean,R.A. A BAC End Sequencing Framework to Sequence the Magnaporthe grisea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AQ325004 579 bp DNA linear (mgxb0020B07r CUGI Rice Blast BAC Library Magnaporthe
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Seq primer: GGAAACAGCTATGACCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Dean RA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: rdean@clemson.edu
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864 656 4293
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Location/Qualifiers
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TAG_TISSUE-ventricle at 16.5 dpc
TAG_LIB=UI-R-BJI
                                                                                                                              /tissue_type="Protoplasts"
/lab_host="E. coli DH10B"
/clone_lib="CUGI Rice Blast BAC Library"
/clone_TUGI Rice Blast BAC Library"
/note="Vector: pBACWICH; Site_1: HindIII; Site_2: HindIII;
/note="Type-tor: pBACWICH; Site_1: HindIII; Site_2: HindIII;
/note="Type-tor: pBACWICH; Site_1: HindIII; Site_2: HindIII;
/note="Type-"Protoplasts"
/note="Type-"Protop
a haploid genome (n=7) of approximately 40 Mbp. Rice blast is an important model fungal pathogen for studying numerous aspects of the fungal-host interaction. In
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /mol_type="genomic DNA"
/strain="70-15"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Magnaporthe grisea"
/mol_type="qenomic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                   'db_xref="taxon:148305"
'clone="mgxb0020B07r"
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Pred. No. 9.9e+02;
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        658 bp mRNA linear EST 21 WS0198.B21 A22 PT-DX-N-A-10 Populus trichocarpa cDNA clone WS0198 A22 3', mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genome BC forest genomics program University of British Columbia Michael Smith Laboratories, 6174 University Boulevard, Rm. Vancouver, British Columbia, Canada, V6T 1Z3 Tel: 1-604-822-0282 Fax: 1-604-822-2114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kirkpatrick,R., Liu,J., Palmquist,D., Stott,J., Barber,S., Yang,G., Babakaiff,R., Brown-John,M., Chand,S., Featherstone,R., Masson,A., Mayo,M., Moran,J., Olson,T., Wong,D., Ritland,C.E., Siddiqui,A., Holt,R., Jones,S., Marra,M., Ellis,B.E., Douglas,C., Ritland,K. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Populus trichocarpa
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: bohlmann@msl.ubc.ca
Plate: WS0198 row: A column: 22
High quality sequence stop: 658.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The poplar transcriptome: Analysis of expressed sequence tags from multiple cDNA libraries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unpublished (2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bohlmann, J.
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Ralph,S., Cooper,D., Kolosova,N., Oddy,C., Butterfield,Y.,
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/Clone lib="PT-DX-N-A-10"
//Clone lib="PT-DX-N-A-10"
//Dote="Vector: pBluescript II SK (+) XR; Site 1: ECORI (5'
/Note="CONA); Site 2: XhoI (3' end of cDNA); Outer xylem
end of cDNA); Site 2: XhoI (3' end of cDNA); Outer xylem
from 5 year old trees harvested every two weeks between
April and October of 2002 at the University of British Columbia
Columbia south campus farm in Vancouver, British Columbia
mRNA was isolated from each tissue source independently
and equal quantities of mRNA from each tissue were then
pooled. cDNA was prepared from 5 micrograms of mRNA and
directionally ligated into the pBluescript II SK (+) XR
vector using the pBluescript II XR cDNA Library
Construction Kit according to manufacturer's instructions
with modifications (Stratagene). Plasmid DNA was then
transformed by electroporation into DH10B cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            order to facilitate genome wide analysis, a BAC library containing 9216 clones with an average insert size of I kbp was constructed. This library represents greater than 25X genome coverage. High density colony filters are available upon request."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mol_type="mRNA"
/cultivar="VT-125"
                                                                                                                                                                                                                                                                                                                                                                                                      sex="Not determined"
lab_host="E. coli DH10B T1 phage resistant cells"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    clone="WS0198 A22"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           db_xref="taxon:3694"
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RESULT 27
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OB Ba0073I12.f
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CF234787
682 bp mRNA linear EST 05-AUG PtaJXT0015B4B0404 Poplar cDNA library from young tension xylem Populus alba x Populus tremula cDNA 5', mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FORWARD: TAA TAC GAC TCA CTA TAG GG BACKWARD: CAC TCA TTA GGC ACC CCA INSERT Length: 14500 Std Brror: (Plate: 0073 row: I column: 12 Seq primer: TAA TAC GAC TCA CTA TAG Class: BAC ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Arizona Genomics Institute University of Arizona Forbes Building Room 303, Tucson, Tel: 520 626 9595
Fax: 520 621 1259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Oryza brachyantha
Oryza brachyantha
Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, Liliopsida, Poales, Poaceae, BEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PCR PRimers
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Kudrna, D., Muller, C., Hatfield, J., Soderlund, C. and Wing, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: rwing@genome.arizona.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Contact: Rod A. Wing
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_Ba0073I12 5', g
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                                                                                                                                                                                                                                                                       /mol_type="genomic DNA"
/db_xref="taxon:4533"
/clone="OB_Ba0073112"
/tissue_type="leaves"
/dev_stage="mature"
/lab_host="PH10B"
/clone_lib="OB_Ba"
/note="Vector: pAGIBAC1; Site_1: HindIII; Site_2: HindIII"
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                                                                                                                                                                                                                                                                                                                                                                                                                                           1. .677
                                                                                                                                                                                                                                                                                                                                                                                                                       organism="Oryza brachyantha"
                                                                                                                                                                                                                                                                                                                                                                                                                                                       location/Qualifiers
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84.6%;
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84.6%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AZ 85721-0036, USA
                                                                                                                                                                                                                              DB 13;
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                                                                                                                                                                                                                              Length 677;
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                                                                                                                                                                                                                                                                                                                                      89
Oryza coarctata
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; BEP
                                                                                                                          OC Ba0099806.r OC Ba Oryza
3', genomic survey sequence.
CZ749731
CZ749731.1 GI:71185246
                                                                                                                                                                                                                                                                                                                                                                                 2 AACAGCAATACAACAAACCGTTGTGT 27
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BACKWARD: TriplexB1 5' ATACGACTCACTATAGGCGA 3'
Plate: PtatAVT0015 row: B column: 4
Seq primer: TriplexA 5' CTCGGGAAGCGCGCCATTGTG 3'.
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Fax: 33 02 38 41 78 79
                                                                            GSS.
Oryza coarctata (Porteresia coarctata)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Expressed sequence tags from poplar wood tissues - A comparative analysis from multiple libraries plant Biol. 6 (1), 55-64 (2004)
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;
rosids; eurosids I; Malpighiales; Salicaceae; Saliceae; Populus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Leple JC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Populus alba x Populus tremula
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                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /tissue_type="Young differentiating xylem harvested on the tension wood side of tilted trees"
/dev stage="3-years-old poplar trees grown in the nursery"
/clone_llb="poplar cDNA library from young tension xylem"
/note="A cDNA library was made with mRNA isolated from tension wood tissues corresponding to the differentiating xylem collected with a scalpel after debarking the stem.
The sampling was done on 3 different tilted trees grown in the nursery. cDNAs were cloned in an oriented way into SfiI (A and B) restriction sites. A one-step conversion of Lambda TriplEx2 to the corresponding pTriplEx2 plasmid was done via site-specific recombination at loxP sites
(Clontech; SMART cDNA library construction kit). cDNA inserts were PCR amplified using flanking primers and then sequenced on a ABI3100 Genetic Analyser (Applied
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /mol_type="mRNA"
/strain="clone 717-1-B4"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /db_xref="taxon:80863"
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84.6%;
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REFERENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Contact: Rod A. Wing Arizona Genomics Institute University of Arizona Forbes Building Room 303, Tu Tel: 520 626 9595
Fax: 520 621 1259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FORWARD: TAA TAC GAC TCA CTA TAG GG
BACKWARD: CAC TCA TTA GGC ACC CCA
Plate: 0099 row: E column: 06
Seq primer: CAC TCA TTA GGC ACC CCA
Class: BAC ends.
                                                                                                                                                                                                                                                                                                                                                                                                                   BW085832 Nori Satoh unpublished cDNA library, larva Ciintestinalis cDNA clone rcilv043e07 3', mRNA sequence.
                                                                                                                                          Kyoto University
Sakyo-ku, Kyoto, Kyoto 606-8502,
Tel: 81-75-753-4081
Fax: 81-75-705-1113
                                                                                                                                                                                                                                                                                                                                       Ciona intestinalis
Ciona intestinalis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 AACAGCAATACAACCAAACCGTTGTGT 27
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kim,H., Collura,K., Wissot
Rao,K., Luo,M., Jetty,R.,
                                                                                                                                                                                                       Contact: Nori Satch
Department of Zoology
                                                                                                                                                                                                                                                        Satou,Y., Shin-i,T., Kohara,Y. and Satoh,N. Expressed genes in Ciona intestinalis (2002c)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           clade; Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                        Unpublished (2002)
                                                                                                                                                                                                                                                                                                       Bukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;
Phlebobranchia; Cionidae; Ciona.
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in,H., Collura,K., Wissotski,M., Byrne,M., Stum,D., Smart,D.,
                                                                                                                                                                                                                                                                                        (bases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                        satoh@ascidian.zool.kyoto-u.ac.jp.
Location/Qualifiers
/clone="rcilv043e07"
/tissue_type="whole animal"
/dev_stage="larva"
                                             /organism="Ciona intestinalis"
/mol_type="mRNA"
/db_xref="taxon:7719"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /lab_host="DH10B"
/clone_lib="OC_Ba"
/note="Vector: pAGIBAC1; Site_1: HindIII; Site_2: HindIII"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone="OC_Ba0099E06"
/tissue_type="leaves"
/dev_stage="mature"
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/mol_type="genomic DNA"
/db_xref="taxon:77588"
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Query Match
Best Local Similarity
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1 (bases 1 to 735)
Satou,Y., Shin-i,T., Kohara,Y. and Satoh,N. Expressed genes in Ciona intestinalis (2002c) Unpublished (2002).
           Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Euteleostei; Protacanthopterygii; Salmoniformes; Salmonidae; Salmo. 1 (bases 1 to 737)

Koop, B.F. Davidson, W.S. and cGRASP Consortium.

Expressed Sequence Tags from Atlantic Salmon Unpublished (2006)

Unpublished (2006)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BW089764 Nori Satoh unpublished cDNA library, larva Ciona intestinalis cDNA clone rcilv058d20 3', mRNA sequence.
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                                                                                                                                               Salmo salar (Atlantic salmon)
Salmo salar
                                                                                                                                                                                                                         EST ssal_rgb2_41584 rgb2 Salmo salar cDI ssal_rgb2_567_161_fwd 3', mRNA sequence DW577165
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 22; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sakyo-ku, Kyoto, Kyoto 606-8502,
Tel: 81-75-753-4081
Fax: 81-75-705-1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Nori Satoh
Department of Zoology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ciona intestinalis
                                                                                                                                                                                                     DW577165.1 GI:85048987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: satch@ascidian.zool.kyoto-u.ac.jp.
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Koop
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Ciona intestinalis"
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/db xref="taxon:7719"
/clone="rcilv058d20"
/tissue_type="whole animal"
/dev_stage="larva"
/clone_lib="Nori Satoh unpublished cDNA library,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone_lib="Nori Satoh unpublished cDNA library,
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84.6%;
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0; Mismatches
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CA064299
    FEATURES
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                                                                                                                                                                                                                                                                                                                                    JOURNAL
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Marra. Bioinformatice: Centre for Biomedical
of Victoria Jong Leong, BF Koop.
Insert Length: 737 Std Error: 0.00
                                  Genome Sciences Centre, BC Cancer Agency
CDNA preparation, sequencing and bioinformatics:
Y Butterfield, R Kirkpatrick, J Asano, N Girn, R
S Lee, T Olson, P Pandoh, A Prahbu, D Smailus, L
S Taylor, G Yang, J Schein, S Jones and M Marra.
                                                                                                                                                                                                                   14962987
Contact: Koop BF
Centre for Biomedical Research
University of Victoria
PO Box 3020 STN CSC, Victoria BC,
                                                                                                                                                                                                                                                                                                                                                                    Kuipers, N., Busby, M., Beetz-Sargent, M., Alberto, R., Gibbs, A.R., Hunt, P., Shukin, R., Zeznik, J.A., Nelson, C., Jones, S.R., Smailus, D.E., Jones, S.J., Schein, J.E., Marra, M.A., Butterfield, Y.S., Stott, J.M., Ng, S.H., Davidson, W.S. and Koop, B.F. Development and application of a salmonid EST database and cDNA microarray: data mining and interspecific hybridization characteries.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                85alrgb530194 mixed_tissue Salmo salar cDNA, mRNA sequence. CA064299
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High quality sequence stop: 737.
Location/Qualifiers
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University of Victoria
PO Box 3020 STN CSC, Victoria BC,
                                                                                                                                                                              Tel: 250 472 4067
Fax: 250 472 4075
                                                                                                                                                                                                                                                                                                                                    Genome Res. 14 (3), 478-490 (2004)
                                                                                                                                                                                                                                                                                                                                                           characteristics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rise, M.L., von Schalburg, K.R., Brown, G.D., Mawer, M.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Euteleostei; Protacanthopterygii; Salmoniformes; Salmonidae; Salmo. 1 (bases 1 to 733)
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Salmo salar
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Fax: 250 472 4075
                                                                                                                                                          Email: bkoop@uvic.ca
                         POLYA=Yes
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/clone_Tib="rgb2"
/clone_Tib="rgb2"
/note="Organ: brain, kidney, spleen; Vector: pCMVsport6;
/note="Organ: brain, kidney, spleen; Vector: pCMVsport6;
ssalrgb2 mixed_tissue_Salmo_salar_cDNA; Tissue_contributors: Robert_Devlin (DFO, Vancouver, B.C.)"
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            clone="ssal_rgb2_567_161_fwd"/tissue_type="mixed_tissue"/
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ical Research, University
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                                                                R Guin, D Lee,
L Spence, J St
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REFERENCE
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CA056575
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1 (bases 1 to 764)

Rise, M.L., von Schalburg, K.R., Brown, G.D., Mawer, M.A., Devlin, R.H. Ruipers, N., Busby, M., Beetz-Sargent, M., Alberto, R., Gibbs, A.R., Hunt, P., Shukin, R., Zeznik, J.A., Nelson, C., Jones, S.R., Smallus, D.E., Jones, S.J., Schein, J.E., Marra, M.A., Sand Koop, B.F. Butterfield, Y.S., Stott, J.M., Ng, S.H., Davidson, W.S. and Koop, B.F. Development and application of a salmonid EST database and cDNA microarray: data mining and interspecific hybridization characteristics
                                                                                                                                                                                                                                                                                                         cDNA preparation, sequencing and bioinformatics:
Y Butterfield, R Kirkpatrick, J Asano, N Girm, R Guin, D Lee,
S Lee, T Olson, P Pandoh, A Prahbu, D Smailus, L Spence, J St
S Taylor, G Yang, J Schein, S Jones and M Marra.
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University of Victoria
PO Box 3020 STN CSC, Victoria
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CA056575
                                                                                                                                                                                                                                                                                                                                                                                                                                                Genome Sciences Centre, BC Cancer Agency
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Tel: 250 472 4067 Fax: 250 472 4075
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: bkoop@uvic.ca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Koop BF
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                                      /strain="McConnell"
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/db xref="taxon:8030"
/clone lib="mixed tissue"
/clonele="weetor: pcMVsport6; Library Creator: Research
/note="Vector: pcMVsport6; Library Creator: Research
Genetics; Atlantic salmon tissue contributors: Carlo
Genetics; Atlantic salmon tissue contributors: Carlo
Genetics; Atlantic salmon tissue contributors: Carlo
Giagi, Mitch Uh and Robert Devlin (DPO, Vancouver, B.C.),
Simon Jones (PBS, Nanaimo, B.C.), Seaspring Hatchery
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/note="Vector: pcMVsport6; Library Creator: Research
/enetics; Atlantic salmon tissue contributors: Carlo
Biagi, Mitch Uh and Robert Devlin (DFO, Vancouver, B.C.),
Simon Jones (PBS, Nanaimo, B.C.), Seaspring Hatchery
(Crofton, B.C.), Rachel Roper (University of Victoria)"
                   Simon Jones (PBS, Nanaim (Crofton, B.C.), Rachel
                                                                                                                                                                                                                                    /organism="Salmo salar"
/mol_type="mRNA"
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/mol_type="mRNA"
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                      mo, B.C.), Seaspring Hatchery
Roper (University of Victoria)"
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Query Match Best Local Similarity

70.0%; 84.6%;

Score Pred.

19.6; DB 4 No. 1e+03;

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RESULT 34
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LOCUS
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BU255194/c
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sequence.
BU255194
BU255194.1
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Oryza sativa (japonica cultivar-group)
Oryza sativa (japonica cultivar-group)
Eukaryota, Viridiplantae, Streptophyta, Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; BEP
clade; Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 (bases 1 to 782)
Jantasuriyarat,C., Gowda,M., Haller,K., Hatfield,J., Lu,G.,
Jantasuriyarat,C., Gowda,M., Kim,H., Yu,Y., Dean,R.A., Wing,R.A.,
Stahlberg,E., Zhou,B., Li,H., Kim,H., Yu,Y., Dean,R.A., Wing,R.A.,
Soderlund,C. and Wang,G.L.
Soderlund,C. and Wang,G.L.
Large-scale identification of expressed sequence tags involved in
rice and rice blast fungus interaction
Plant Physiol. 138 (1), 105-115 (2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CB643162 782 bp mRNA linear EST 08-:
OSJNEb03L08.r OSJNEb Oryza sativa (japonica cultivar-group)
Clone OSJNEb03L08 3', mRNA sequence.
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                                                          BU255194 792
603746126F1 CSEQCHN38 Gallus
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Plate: 03 row: L column: 08
Seq primer: gga aac agc tat gac cat
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Fax: 520 621 9288
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University of Arizona
Biological Sciences West,
85721-0088, USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: rwing@genome.arizona.edu
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                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Oryza sativa (
/mol type="mRNA"
/cultivar="Nipponbare"
/db xref="taxon:39947"
/clone="OSJNEb03L08"
                                                                                                                                                                                                                                                                                                                                                                                                                     /tissue_type="Leaf"
/dev_stage="3 week"
/lab_host="DH10B"
/clone_lib="OSJNEb"
                                                                                                                                                                                                                                                                                                                                                                                /note=\overline{\ }Vector: pBluescript II KS KhoI; 24 hrs after innoculation w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ocation/Qualifiers
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84.6%;
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                                                                                                                                                                                                                                                                                               DB 4;
                                                                                 mRNA
                                                          mRNA linear EST 26-NOV-2002 CDNA clone ChEST651c8 5', mRNA
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with Rice Blast (Che
                                                                                                                                                                                                                                                                                               Length
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BW087205
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                                             Ciona intestinalis

Bukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;

Phlebobranchia; Cionidae; Ciona.

1 (bases 1 to 793)

1 (bases 1 to 793)

Satou,Y., Shin-i,T., Kohara,Y. and Satoh,N.

Expressed genes in Ciona intestinalis (2002c)
                                                                                                                                                                                                                                                         BW087205 Nori Satoh unpublished cDNA library, larva Ciintestinalis cDNA clone rcilv048h03 3', mRNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Archosauria; Aves, Neognathae; Galliformes; Phasianidae; Phasianinae; Gallus.

1 (bases 1 to 792)

1 (bases 1 to 792)

Boardman, P.E., Sanz-Ezquerro, J., Overton, I.M., Burt, D.W., Bosch, E., Fong, W.T., Tickle, C., Brown, W.R.A., Wilson, S.A. and Hubbard, S.J. A Comprehensive Collection of Chicken cDNAs

Curr. Biol. 12 (22), 1965-1969 (2002)
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Gallus gallus (chicken)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Simon Hubbard
Department of Biomolecular Sciences
University of Manchester Institute of Science and Technology
                  Unpublished (2002)
Contact: Nori Sato
                                                                                                                                                                              Ciona intestinalis
                                                                                                                                                                                                                      BW087205.1 GI:24262485
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//clone_Togan: limbs; Vector: pBluescript II KS(+); Site_1:
//octe="Oygan: limbs; Vector: pbluescript was
//octe="Oygan: limbs; Vector: pbluescript was
//octe="Oygan: lighted to not adapters, digested with
//ockI size-selected, and cloned into the NotI and EcoRI
//ocmpatible sites of a custom modified MCS of the
//octe="Oygan: lighted to was normalized in 2
//occept togan: lighted from Soares et al., PNAS
//occept that a significantly longer
//occept reannealing hybridization was used."
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/mol type="mRNA"
/strain="White Leghorn, Hi.
/db xref="taxon:9031"
/clone="ChEST651C8"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      dev_stage="36"
lab_host="DH10B"
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Pred. No. 1e+03;
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REFERENCE
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Query Match
Best Local S
Matches 22
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Sakyo-ku, Kyoto, Kyot
Tel: 81-75-753-4081
Fax: 81-75-705-1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99
                                                                                                                                                                                                                                                                                                                             Email: bkoop@uvic.ca
Sequenced by: Genome Sciences Centre, BC Cancer Agency Rob Holt, M.
Marra. Bioinformatics: Centre for Biomedical Research, University
of Victoria Jong Leong, BF Koop.
Insert Length: 822 Std Error: 0.00
Plate: 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Contact: Koop BF
Centre for Biomedical Research
University of Victoria
PO Box 3020 STN CSC, Victoria BC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST seal rgb2 41585 rgb2 Salmo salar cDNA clone seal rgb2 567_161_rev 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Expressed Sequence Tags from Atlantic Salmon Unpublished (2006) Unpublished (2006)
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                                                                                                                                                                                                                                                                                                                                                                                                                                     Tel: 250 472 4067
Fax: 250 472 4075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Euteleostei; Protacanthopterygii; Salmoniformes; Salmonidae; Salmo. 1 (bases 1 to 822)
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Salmo salar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Koop, B.F, Davidson, W.S. and cGRASP Consortium
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Email: satoh@ascidian.zool.kyoto-u.ac.jp.
                  Similarity
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 Conservative
                                                                                                                                                                                                                                                                            quality sequence stop: Location/Qualifiers
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                                                                             /db_xref="taxon:8030"
/clone="ssal_rgb2_567_161_rev"
/tissue_type="mixed tIssue"
/clone_Iib="rgb2"
/clone_Iib="rgb2"
/note="Organ: brain, kidney, spleen; Vector: pCMVsport6;
ssalrgb2 mixed_tissue Salmo salar cDNA; Tissue
contributors: Robert Devlin (DFO, Vancouver, B.C.)"
                                                                                                                                                                                                                                                                 1. .822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Ciona intestinalis"
/mol_type="mRNA"
/db_xref="taxon:7719"
/clone="rci1v048h03"
/tissue_type="whole animal"
/dev_stage="larva"
/clone_lib="Nori Satoh unpublished cDNA library,
                                                                                                                                                                                                                                            organism="Salmo salar"
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/strain="McConnell"
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                70.0%;
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Score 19.6; DB
Pred. No. 1e+03;
0; Mismatches
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Pred. No. 1e+03;
0; Mismatches
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Gaps
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REFERENCE
AUTHORS
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CG452337
LOCUS
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AUTHORS
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KEYWORDS
SOURCE
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CG219751/c
LOCUS
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ORGANISM
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VERSION
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Seq primer: TR
Seq primer: TR
Class: methylation filtered.
Location/Qualifiers
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(bases 1 to 832)

Whitelaw,C.A., Quackenbush,J., Van Aken,S., Utterback,T.,
Resnick,A., Fraser,C.M., Budiman,M.A., Bedell,J.A., Rohlfing,T.,
Citek,R.W., Nunberg,A., Robbins,D. and Lakey,N.

Consortium for Maize Genomics
Unpublished (2002)
Other_GSSs: CGWLQ26TV
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            1 (bases 1 to 839)
Whitelaw, C.A., Quackenbush, J., Van Aken, S., Utterback, T.,
Resnick, A., Fraser, C.M., Budiman, M.A., Bedell, J.A., Rohlfing, T.,
Citek, R.W., Nunberg, A., Robbins, D. and Lakey, N.
                                                                                                                                                                 GSS.
                                                                                                                                                                                                                                 OGVHQ26TV ZM_0.7_1.5_KB Zea
                                                                              Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD clade; Panicoideae; Andropogoneae; Zea.
                                                                                                                                                                                                genomic survey
CG452337
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OGWLQ26TH ZM_0.7
 Consortium for Maize Genomics
                                                                                                                                Zea mays
                                                                                                                                                Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tel: 301-838-5843
Fax: 301-838-0208
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CG219751
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                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9712 Medical Center Drive,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Cathy Whitelaw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zea mays
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone="ZMMBMa0612F03"
/clone_lib="ZM 0.7_1.5_KB"
/note="Vector: pBCSR.; Site_1: HincII; 0.7-1.5
methylation filtered genomic_DNA library"
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Pred. No. 1e
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genomic clone
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CG219765
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Best Local (
Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                          clade; Panicoideae; Andropogoneae; Zea.

1 (bases 1 to 959)

Whitelaw,C.A., Quackenbush,J., Van Aken,S., Utterback,T.,
Resnick,A., Fraser,C.M., Budiman,M.A., Bedell,J.A., Rohlfing,T.,
Citek,R.W., Nunberg,A., Robbins,D. and Lakey,N.
Consortium for Maize Genomics
Unpublished (2002)
Other_GSSs: CGWLQ26TH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Unpublished (2002)
Other_GSSs: OGVHQ26TH
Contact: Cathy Whitelaw
                                                                                                                                                                                                                                                                                         9712 Medical Center Drive, Rockville, MD 20850, USA Tel: 301-838-5843 Fax: 301-838-0208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopaida; Poalea; Poaceae; PACCAD
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OGWLQ26TV ZM_0.7_1.5_KB Zea
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                                                                                                                                                                                                                     Class: methylation filtered.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                              Contact: Cathy Whitelaw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CG219765.1
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                                                                                                                                                                                                                                                         Seq primer: TF
                                                                                                                                                                                                                                                                       Email: whitelaw@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Email: whitelaw@tigr.org
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                                                              /db_xref="taxon:4577"
/clone="zwMBMa0612F03"
/clone_11b="ZM_0.7_1.5_KB"
/clone_11b="ZM_0.7_1.5_KB"
/note="Vector: pBCSK.; Site_1: HincII; 0.7-1.5
methylation filtered genomic DNA library"
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/clone="ZMMBMA0485F03"
/clone lib="ZM 0.7 1.5 KB"
/note="Vector: pBCSK-; Site_1: HincII; 0.7-1.5
methylation filtered genomic DNA library"
                                                                                                                                                     organism="Zea mays"
/mol_type="genomic_DNA"
/strain="B73"
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/strain="B73"
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70.0%;
84.6%;
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Pred. No. 1e+03;
0; Mismatches 4;
 Score 19.6; DB 12;
Pred. No. 1e+03;
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genomic clone
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                 Length 959;
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ACCESSION
VERSION
KEYWORDS
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ORGANISM
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AUTHORS
TITLE
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SOURCE
ORGANISM
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DE039251
LOCUS
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CZ104695
LOCUS
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   JOURNAL
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                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                203
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                                                                                                                sequence.
DE039251
DE039251.1
GSS.
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Oryza minuta
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Lilioppida; Poales; Poaceae; BEP
Clade; Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OM Ba0113L07.r OM Ba Oryza
genomic survey sequence.
CZ104695
                                                                     Branchiostoma floridae (Florida lancelet)
Branchiostoma floridae
Bukaryota; Metazoa; Chordata; Cephalochor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: rwing@genome.arizona.edu Plate: 0113 row: L column: 07 Class: BAC ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Arizona Genomics Institute
University of Arizona
Forbes Building Room 303, Tucson,
Tel: 520 626 9595
Fax: 520 621 1259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22;
Fujiyama,A., Toyoda,A., Kuroki,Y. and Sakaki,Y. BAC end sequences of CHORI-302 Amphioxus Library Published Only in Database (2005)
                                                                                                                                                                                                                                                                                         7 CAATACAACAAACCGTTGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OMAP (Oryza Map Alignment Project) - Unpublished (2005)
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                                                         Branchiostoma
                                                                                                                                                                         Branchiostoma
                                                                                                                                                                                       DE039251
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kim,H., Collura,K., Wissotski,M., Byrne,M., Stum,D., Smart,D.,
Rao,K., Luo,M., Jetty,R., Kudrna,D., Muller,C., Soderlund,C. a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Oryza minuta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CZ104695.1 GI:57680996
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                                                                                                                                                                                                                                                                                                                                                                                               HindIII"
                                                                                                                                                                                                                                                                                                                                                                                                         /tissue_type="leaves"
/lab_host="PH108"
/clone_lib="OM_Ba"
/note="Vector: pcugibac1; Site_1: HindIII; Site_2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Oryza minuta"
/mol_type="genomic DNA"
/db_xref="taxon:63629"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    clone="OM Ba0113L07"
                                                                                                                                GI:62283060
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Pred. No. 1.
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REFERENCE
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ORGANISM
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BQ626720
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JOURNAL
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Best Local Similarity
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source
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McCarter, J., Clitton, S., Chiapelli, B., Pape, D., Martin, J., Wylie, T., Dante, M., Marra, M., Hillier, L., Kucaba, T., Theising, B., Bowers, Y., Gibbons, M., Ritter, B., Bennett, J., Franklin, C., Tsagareishvili, R., Ronko, I., Kennedy, S., Maguire, L., Beck, C., Underwood, K., Steptoe, M., Allen, M., Person, B., Swaller, T., Underwood, K., Steptoe, M., Allen, M., Person, B., Swaller, T., Harvey, N., Schurk, R., Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, R., Waterston, R. and Wilson, R.

The Washington Univ. Nematode EST Project, 1999
Unpublished (1999)
Contact: McCarter JP
The Washington Univ. Nematode EST Project, 1999
Washington University School of Medicine
1444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     270
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Submitted (31-MAR-2005) Asao Fujiyama, The Institute of Physical and Chemical Research (RIKEN), Genomic Sciences Center (GSC);
1-7-22 Suehiro-chou, Tsurumi-ku, Yokohama, Kanagawa, 230-0045, Japan (B-mail:afujiyam@gsc.riken.jp, URL:http://hgp.gsc.riken.jp/, Tel:81-45-503-9111, Fax:81-45-503-9170)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BQ626720 524 bp mRNA linear EST 01-JUL-2002 pz26b03.yl Pratylenchus penetrans mixed stage SL1 TOPO v1 Pratylenchus penetrans cDNA 5' similar to SW:RS15_HUMAN P11174 40S RIBOSOMAL PROTEIN S15 , mRNA sequence.
                 The library was constructed by Claire Murphy and Dr. James McCarter at Washington University, St. Louis. RNA was provided by Andrew Rloek of Divergence Inc., St. Louis, MO. Putative full length read
The vector to vector length is 567
Seq primer: SL1 primer.
Location/Qualifiers
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Fujiyama, A.
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Tylenchoidea; Pratylenchidae; Pratylenchinae; Pratylenchus.
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                                                                                                                                                                                                                 Tel: 314 286 1800
Fax: 314 286 1810
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                                                                                                                                                                                           est@watson.wustl.edu
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/clone_lib="CHORI0302 Amphioxus
/note="common name:amphioxus"
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/db_xref="taxon:7739"
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87.5%;
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Pred. No. 1.5e+03;
0; Mismatches 3
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ACCESSION
VERSION
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AUTHORS
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BQ627018
LOCUS
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McCarter, J., Clifton, S., Chiapelli, B., Pape, D., Martin, J., Mylie, T., Dante, M., Marra, M., Hillier, L., Kucaba, T., Theising, B., Bowers, Y., Gibbons, M., Ritter, B., Bennett, J., Franklin, C., Tsagareishvili, R., Ronko, I., Kennedy, S., Magnire, L., Back, C., Tsagareishvili, R., Ronko, I., Kennedy, S., Magnire, L., Back, C., Underwood, K., Steptoe, M., Allen, M., Person, B., Swaller, T., Harvey, N., Schurk, R., Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, R., Waterseton, R. and Wilson, R.
The Washington Univ. Nematode EST Project, 1999
Onther Macana and Milson, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                524 bp mRNA linear EST 01-JUL-2002 pz30b06.yl Pratylenchus penetrans mixed stage SL1 TOPO vl Pratylenchus penetrans cDNA 5' similar to SW:RS15_HUMAN P11174 40S RIBOSOMAL PROTEIN S15 ;, mRNA sequence.
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                                                                                                                                                                                                                                                                                                                                                                                                                       Tel: 314 286 1800
Fax: 314 286 1810
Email: est@watson.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The Washington Univ. Nematode EST Project, 1999 Washington University School of Medicine 4444 Porest Park Parkway, Box 8501, St. Louis, N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pratylenchus penetrans
Eukaryota; Metazoa; Nematoda; Chromadorea; Tylenchida; Tylenchina;
Tylenchoidea; Pratylenchidae; Pratylenchinae; Pratylenchus.
                                                                                                                                                                                                                                                                                                                                                                                                   The library was constructed by Claire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: McCarter JP
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/mol_type="mRNA"
/db_xref="taxon:45929"
/dev_stage="mixed stage"
/lab_host="PHIOB (Invitrogen)"
/clone_lib="pratylenchus penetrans mixed stage Stl TOPO
v1"
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|mol type="mRNA"
|/db_xref="taxon:45929"
|/db_stef="mixed stage"
|/lab_host="DH10B (Invitrogen)"
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/note="Vector: pCRII-TOPO (Invitrogen); Site_1: BcoRI;
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87.5%;
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Pred. No. 1.5e+03
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Site 2: EcoRI; The library was constructed by Claire Murphy and Dr. James McCarter at Washington University, St. Louis. Oligo(dT)-SL1 PCR based library. cDNA PCR

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AUTHORS
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The Washington Univ. Nematode EST Project, 1999
Unpublished (1999)
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Kloek of Divergence Inc., St. Louis,
Putative full length read
The vector to vector length is 555
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Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
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Tylenchoidea; Pratylenchidae; Pratylenchinae; Pratylenchus.
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arter, J., Clifton, S., Chiapelli, B., Pape, D., Martin, J.
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/note="Vector: pCRII-TOPO (Invitrogen); Site_1: EcoRI; Site_2: EcoRI; The library was constructed by Claire Murphy and Dr. James McCarter at Washington University, St. Louis. Oligo(dT)-SL1 PCR based library. cDNA PCR products of size >400 nucleotides containing SL1 on the 5' end and oligo(dT) on the 3' end were non-directionally cloned into pCRII-TOPO(Invitrogen) following the Topo TA cloning protocol. RNA was provided by Andrew Kloek of Divergence, Inc., St. Louis, MO."
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                                                                                                                                                                                                                                                                                                                        /organism="Pratylenchus
/mol_type="mRNA"
/db_xref="taxon:45929"
                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
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'lab_host="DH10B (Invitrogen)"
'clone_lib="Pratylenchus penetrans mixed stage SL1 TOPO
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1 (carter, J., Clifton, S., Chiapelli, B., Pape, D., Martin, J., Wylie, T., Dante, M., Marra, M., Hillier, L., Kucaba, T., Theising, B., Bwers, Y., Gibbons, M., Ritter, E., Bennett, J., Franklin, C., Bowers, Y., Gibbons, M., Ritter, E., Bennett, J., Franklin, C., Tseagareishvili, R., Ronko, I., Kennedy, S., Maguire, L., Beck, C., Underwood, K., Steptoe, M., Allen, M., Pers, M., B., Swaller, T., Underwood, K., Schurk, R., Kohn, S., Shin, T., Jackson, Y., Cardenas, M., Harvey, M., Schurk, R., Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, R., Waterston, R. and Wilson, R.

The Washington Univ. Nematode EST Project, 1999
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The vector to vector length is 574
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Fax: 314 286 1810
Email: est@watson.wustl.edu
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Bukaryota; Metazoa; Nematoda; Chromadorea; Tylenchida; Tylenchina;
Tylenchoidea; Pratylenchidae; Pratylenchinae; Pratylenchus.
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Location/Qualifiers
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                                                                                                     /note="Vector: pCRII-TOPO (Invitrogen); Site 1: BcoRI; Site 2: BcoRI; The library was constructed by Claire Murphy and Dr. James McCarter at Washington University, St. Louis. Oligo(GT)-SLI PCR based library. cDNA pCR products of size >400 nucleotides containing SLI on the 5' end and oligo(GT) on the 3' end were non-directionally cloned into pCRII-TOPO(Invitrogen) following the Topo TA cloning protocol. RNA was provided by Andrew Kloek of Divergence, Inc., St. Louis, MO."
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/lab_host="DH10B (Invitrogen)"
/clone_lib="Pratylenchus penet
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Score 19.2; DB 3;
Pred. No. 1.5e+03;
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783 bp mRNA linear EST 16-JUN-2005
49110365 Drosophila pseudoobscura embryonic cDNA library Drosophila
pseudoobscura cDNA clone K19 3', mRNA sequence.
DR154444
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Boardman, P.E., Sanz-Ezquerro, J., Overton, I.M., Burt, D.W., Bosch, E., Fong, W.T., Tickle, C., Brown, W.R.A., Wilson, S.A. and Hubbard, S.J. A Comprehensive Collection of Chicken cDNAs Curr. Biol. 12 (22), 1965-1969 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BU220286 707 bp n 603107182F1 CSEQCHN04 Gallus gallus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tel: 01612008930
Fax: 01612360409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Department of Biomolecular Sciences
University of Manchester Institute of Science and Technology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
Phasianinae; Gallus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12445392
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                                                                                                                                                                 GAACAGCGATATAACAAAACGTTG 352
                                                                                                                                                                                                   GAACAGCAATACAACAAACCGTTG 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Box 88, Manchester, M60 1QD,
                                                                                                                                                                                                                                                                                                                                       / ODUBER 12 CONVERNMENT OF THE PRIMESERIPE II KS(+); / Notes POTGAR: whole embryo; Vector: pBluescript II KS(+); / Notes POTGAR: whole embryo; Vector: clones cDNA constructed from I million independent clones cDNA synthesis was initiated using an oligo(dT) primer, using methylated C in the first strand synthesis reaction. Following this first strand reaction, double-stranded cDNA was blunted, ligated to NotI adapters, digested with ECORI, size-selected, and cloned into the NotI and ECORI compatible sites of a custom modified MCS of the pBluescript (KS+) vector. The library was normalized in 2 rounds using conditions adapted from Soares et al., PNAS (1994) 91: 9228-9232 and Bonaldo et al., Genome Research 6 (1996): 791, except that a significantly longer reannealing hybridization was used."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Simon. Hubbard@umist.ac.uk.
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/strain="White Leghorn, Hisex"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone_lib="CSEQCHN04"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /lab_host="DH10B"
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                                                                                                                                                                                                                                                                 68.6%;
87.5%;
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s cDNA clone ChEST48c21 5',
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BI153495
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 GAACAGCAATACAACAAACCGTTG 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21;
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Gilbert Smith,
                                                                                                                                                                                                                                                EST.
                                                                                                                                                                                                                         Mus musculus (house mouse)
                                                                                                                                                                                                                                                                   BI153495.1 GI:14613496
                                                                                                                                                                                                                                                                                                            mRNA sequence.
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Insert Length: 1750 Std Erro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: stephenr@bcm.tmc.edu
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Location/Qualifiers
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NIH-MGC http://mgc.nci.nih.gov/.
Mational Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
                                                                                                                                                               Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Sciurognathi; Muroidea; Muridae; Murinae; Mus.

1 (bases 1 to 817)
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Human Genome Sequencing Center
Baylor College of Medicine
One Baylor Plaza, Houston, TX 77030, USA
Tel: 713-798-6667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Drosophila pseudoobscura
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
1 (bases 1 to 783)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BI153495 817 bp mRNA linear BST 05-JUL-2001
602915583F1 NCI_CGAP_Lu29 Mus musculus cDNA clone IMAGE:5066108 5',
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/clone_lib="Drosophila pseudoobscura embryonic cDNA
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|mol_type="mRNA"
|db_xref="taxon:7237"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="Vector: pOTB7; Site_1: EcoRI; Site_2: XhoI; oligo
it priming from poly A+ RNA, directionally cloned"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 19.2; DB 9;
Pred. No. 1.5e+03;
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                                                                                                                                                                                                                                                                                                                            Humphray,S.J., Plumb,R.W. and Durham,J.L.

Direct Submission

Submitted (01-NOV-2005) The Sanger Institute, Wellcome Trust Genome Submitted (01-NOV-2005) The Sanger Institute, Wellcome Trust Genome Campus, Hinxton, Cambridgeshire, CB10 18A, UK. E-mail enquiries: humquery@sanger.ac.uk Unpublished

This sequence was generated from the T7 end of BAC 469H10. 469H10 is part of the CHORI-242 BAC Library created by P. de Jong. Further details: http://www.sanger.ac.uk/Projects/S_scrofa/.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sus scrofa genomic clone CH242-469H10, CT474369
CT474369.1 GI:80214467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 AACAGCAATACAACAAACCGTTGT 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
plate: LLAM11178 row: e column: 21
5 AGCAATACAACAAACCGTTGTGTG 28
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sus scrofa
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Similarity 87.5%;
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                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /tissue_type="spontaneous tumor, metastatic to mammary. Stem cell origin."
/lab host="DHIOB"
/clone_lib="NCI_CGAP_LU29"
/note="Organ: lung, Vector: pcWV-SPORT6; Site_1: SalI; Site_2: NotI; Cloned unidirectionally. Primer: Oligo dT. Library constructed by Life Technologies. Investigator providing samples: Gilbert Smith, NIH"
                                                                                                                                                                                /clone="CH242-469H10"
/tissue_type="White blood cells"
/note="vector pTARBAC1.3_BamHI
                                                                                                                                                                 sex female"
                                                                                                                                                                                                                                                 organism="Sus scrofa"

/mol_type="genomic DNA"

/db_xref="taxon:9823"
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'clone="IMAGE:5066108"
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Pred. No. 1.5e+03;
                                                                                 Score 19.2; DB 14;
Pred. No. 1.5e+03;
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